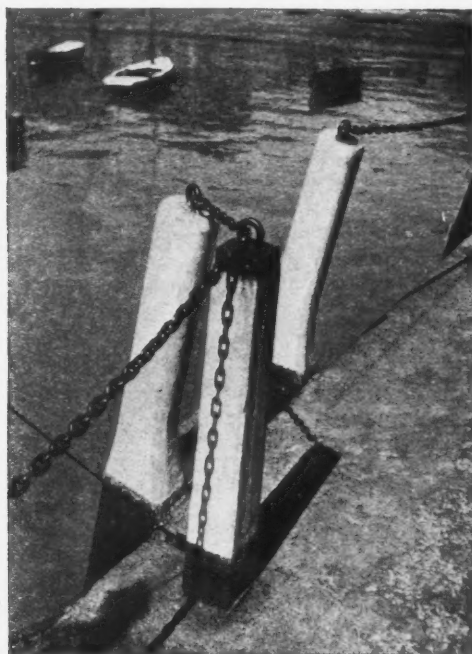


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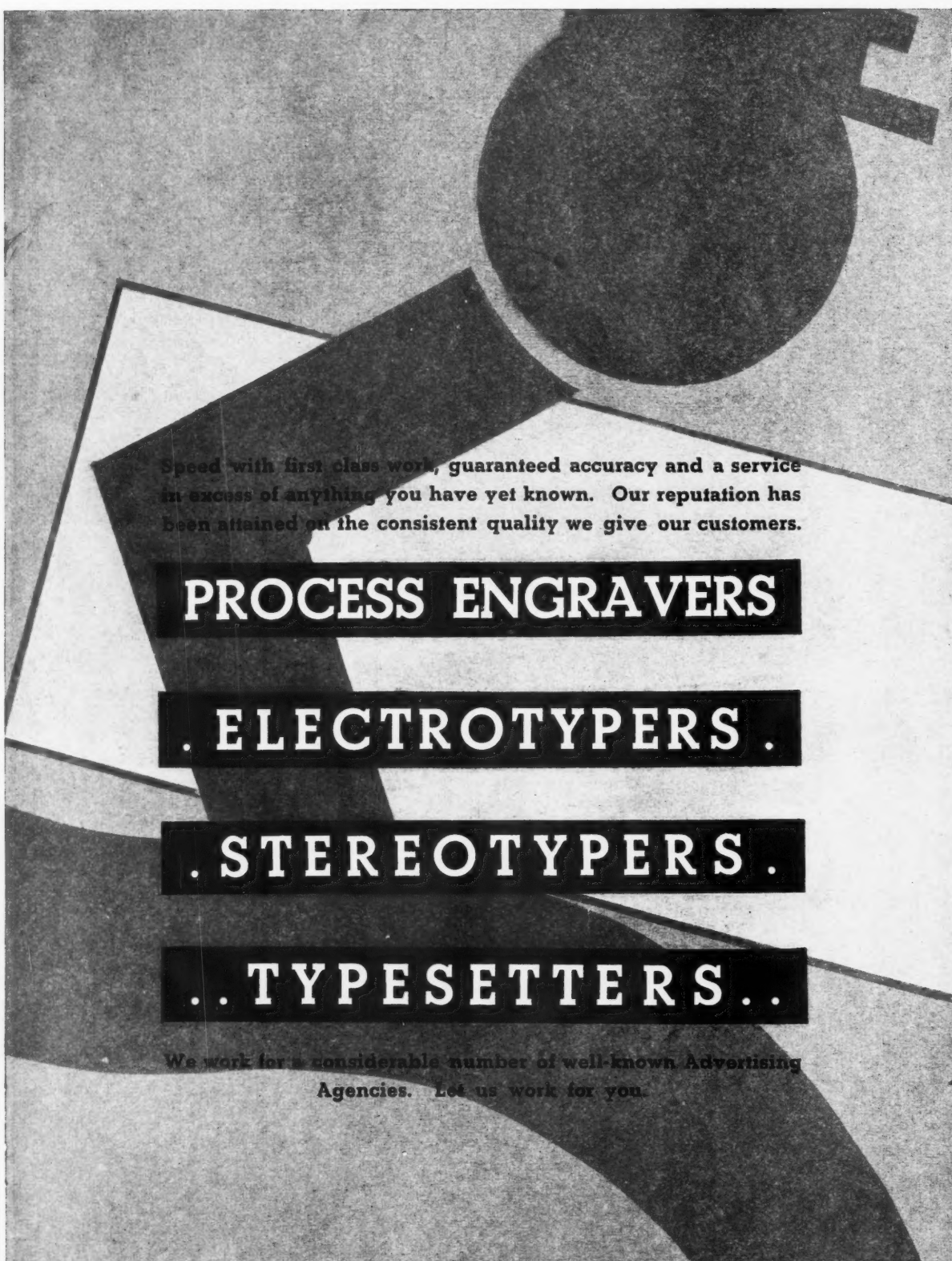
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# THE ARCHITECTURAL REVIEW

## *A Magazine of Architecture & Decoration*

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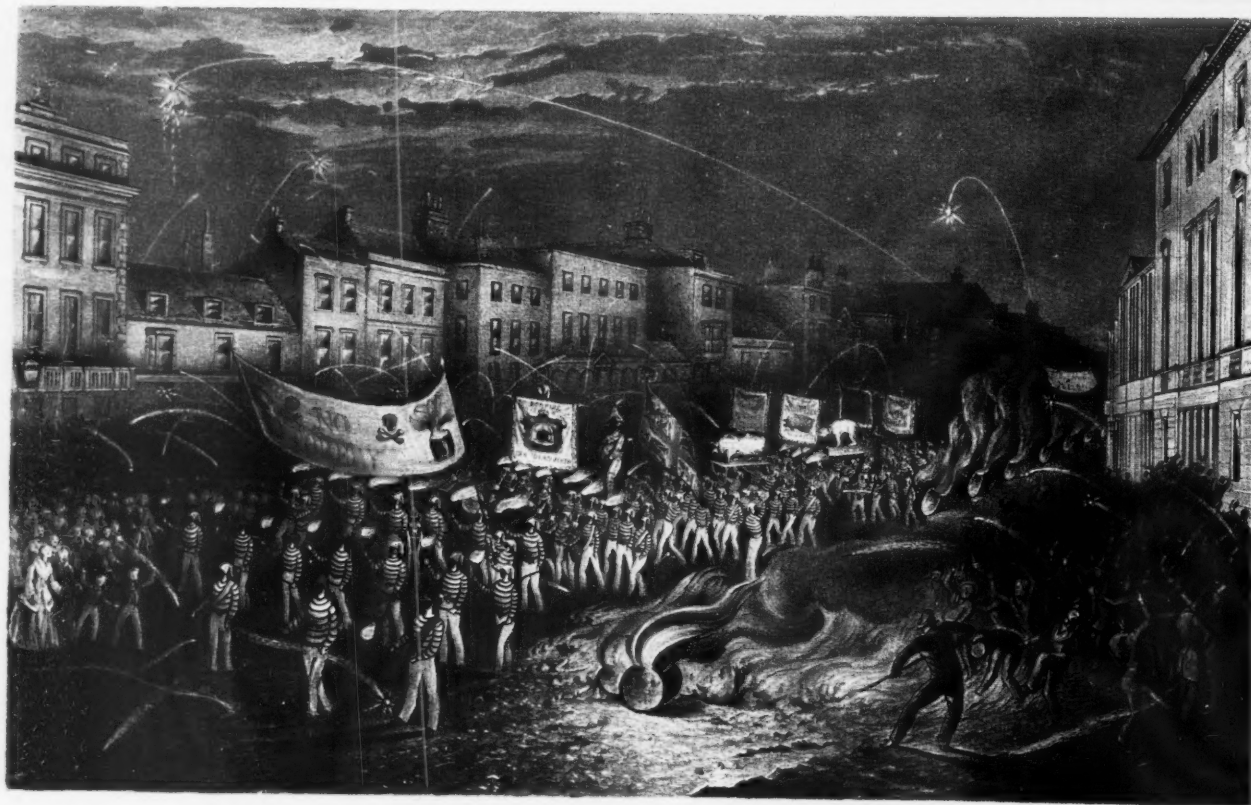
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The celebrations every November 5th of the anniversary of the Gunpowder Plot are the occasion of a long-standing tradition in the town of Lewes, Sussex—a tradition which persists in modified form to-day. This print shows the celebrations of the year 1853, and depicts the procession of the organizers of the celebration, the "Lewes Bonfire Boys." The climax of the occasion is the rolling of flaming

barrels down Lewes High Street. The inscriptions on the banners and the emblems carried in the procession refer not only to the conflict of religions—the Guy Fawkes conspiracy was, of course, a Catholic plot—but also to current political allegiances of the day: the Russian Bear depicted on one, for example, and "victory to the French" on another, derive from the Crimean War.

The print is of some architectural interest in that Lewes High Street shows little change to-day from the state in which it is depicted. It also provides an apt illustration to the article that begins on the opposite page; for the traditional striped costume of the Lewes Bonfire Boys is a good example of the free geometrical use of black and white which the article discusses as a national habit of design.







# BLACK AND WHITE

## AN INTRODUCTORY STUDY OF A NATIONAL DESIGN IDIOM

*By J. M. Richards*

THIS article is an attempt to isolate an idiom of decoration and design peculiar to this country. This idiom may be described as one that gets its architectural effect through the disposition of contrasted areas of black and white applied to the surface of an object. To give an instance of a familiar kind of object that comes into this category we need only refer to those striped Belisha beacons and traffic signals and chequered kerbs with which municipal authorities of recent years have enlivened the appearance of our motor roads. These are only among the most recent applications of the idiom—its origin can be traced back to days before motor traffic and even to days before municipal authorities—and these are also by no means its most architectural applications; but the fact of the present nation-wide use of the idiom for street accessories and the like makes an examination into the peculiar qualities it possesses of special interest; and this use of it has also drawn attention to the charm of black and white which, as a colour motif, is one that designers of modern buildings might profitably experiment with.

In this national idiom of broad surface design we have something that is suited in every way to the climate and setting in which it developed. Some native instinct, allowed free play through the fact that design has been unselfconscious—technical rather than æsthetic—has nearly always managed to preserve in its traditional uses that “rightness” which is the most valuable as well as the most evanescent quality of any simple vernacular tradition. It is, happily and rarely, still a live idiom, and can still be found used with an unconscious sense of style. But modern uses, particularly when a decorative effect is specifically aimed at, often show a misconception of the principles underlying it. It is possible that in examining the ways it is used traditionally we may find some guidance as to the use it could be put to in modern architecture.

To substantiate the statement that there is indeed a distinctive tradition and vocabulary of design in black and white—the two together producing an idiom or style—one that goes deeper than a mere arbitrary combination of colours, we must trace it back to its origins. By so doing we can establish the continuity of the tradition and perhaps discover what are its fortuitous qualities and to what essential qualities it owes its undoubted charm.

Its origins, to begin with, are clearly nautical, and the fact that the tradition forms part of a more general nautical tradition may partly explain why its use is more characteristic of this country than it is of the Continent of Europe. Other reasons are climatic and topographical, but these we can discuss later.

For black-and-white in its embryonic form we must go then to the sea beaches, and to the estuaries where boats lie up at low tide. Here we shall find white paint and tar, the universal contrasts of the sailor's handicrafts. White-painted boats, tarred below the waterline, with clear white lettering on a black gunwhale, provide our starting-point. And on the quay-side the nautical paraphernalia: posts, bollards, capstans, rails: show the translation of the tradition into rudimentary architectural form. These latter are painted after the same simple manner as the boats from which they derive their existence, and so the characteristic note of this waterside scene is the contrast of black and white, punctuating with small definite areas the grey and brown of sky, mud-bank or shingle. Against a black rotting barge white seagulls play counter-change with this pattern, or a slim white flag-pole picks itself out against a hut or boat-shed tarred as black as your hat.

And next, the examples become strictly architectural. For beyond the tarred beach-hut, set back across the



quay or causeway, are the dwelling-houses of those who make their living by the sea, and in these we may find the same nautical idiom repeated. According to the locality, the way it is used may vary. Limewashed walls are characteristic nearly all round the coast, combined with tarred plinths and black-painted window-frames. Sometimes the system is reversed, and white paint on the doors and windows contrasts with the tarred surface of a whole wall. Sometimes white-painted weatherboarding, or Regency stucco, takes the place of the humbler limewash. On the East Coast, though the use of tar prevails as elsewhere, the simple contrast of black and white provides only an occasional high light among the soberer local brick and tile; while in parts of Wales and Cornwall the white walls are so universal that a whole village may provide one large-scale example of counterchanging pattern in the style we are examining.

It is impossible to go into all the regional variations of the style; but in any case this idiom, as we have so far described it, though its use is consecrated by habit—though it has become a true vernacular style, possessing of itself some of the clean sea-swept atmosphere of the environment to which it is native—is based simply on the characteristic nautical materials, tar, paint and whitewash. But another category of black and white nautical objects is based on other and more immediately functional qualities. Besides a ship-shape simplicity and cleanness, the simple contrast of black and white has the quality of maximum visibility, and we can observe a whole series of examples of the use of black and white which, though strictly functional in themselves, have contributed in a striking way to the vocabulary of design in this idiom. We have observed the boats, the beach, the quay and the quayside houses. The quay terminates in a lighthouse, the cylindrical white body of which is ringed in black so that against whatever tone of background it is clearly seen through the mariner's binocular. Beyond, the channel that leads to the open sea is marked by buoys: can buoys, cone buoys, barrel buoys, a whole series of geometrical shapes whose different significance is explained in the *Nautical Almanack*; and these again are painted, many in black and white, in distinctive stripes, checks or other patterns for the sake of visibility.

It is out of these that our tradition of design emerges. Like many architectural styles it is functional only in origin. It becomes of architectural significance when the elements that originated functionally become unified into a

style with æsthetic standards of its own, applied independently of functional necessities. In the design of the ship itself, the nursery of the style, we see this process taking place. In the pre-steam line-of-battle ships the black gun-ports made a chequered pattern on the white hull.\* Derived from this was the wide-spread custom of painting the hulls of ships in a similar pattern. Imitating the warships, and long after they had been superseded, the hulls of unarmed merchant vessels exhibited a consistent style of apparently arbitrary black and white checks. The climax in this decorative development was probably reached by the tall chimneys, spirally enriched with black and white barley-sugar stripes, of the steam pleasure-boats which were such a remarkable feature of Victorian harbour scenes—see the tailpiece to this article. Though these exotic examples have disappeared, their descendants, the paddle steamers that ply in the summer between the English holiday resorts, preserve in many cases the graceful restraint of white relieved by black, though with the contrasts disposed in a more conservative fashion.

On land the same process can be observed. Beside the primitive tarred beach-hut we find its more sophisticated companion, gaily striped in black and white for no more reason than that this provides a simple decorative *motif*, as suitable for its setting as the boats it imitates, and entirely in keeping with the maritime tradition of which it forms an ancillary part. In solidier buildings too we find that the simple origins of the black and white idiom, derived from materials and function, have modified themselves into a distinguishable architectural style: *vide* the standard exterior treatment still given to lighthouses and coastguard stations.

The lighthouse is sufficiently characteristic of the style, and sufficiently fine in architectural quality, to deserve some special attention. Trinity House would be the last establishment to regard itself as a patron of modern architecture; but this very fact has enabled it to set a standard of design in the buildings for which it is responsible that owes nothing to conventional architectural taste and everything to the instinctive rightness with which definite rules are applied in a spirit of adaptability to circumstances. The lighthouses round our coast are standardized in their black and white treatment: white walls, black chimneys; white lanterns and black fog-horns, as authentically representing a style as the indented

\* It is realized that, in the case of His Majesty's men-o'-war, black and white was only an alternative to black and yellow. *Vide* H.M.S. *Victory*, now in Portsmouth Dockyard.

canopies of ochre-painted boards characteristic of our country railway stations, or, indeed, as the battlemented parapets of the fourteenth-century castle.

The severity of style that this standard surface treatment brings to lighthouse buildings is paradoxically accompanied by a gaiety that seems able to survive even the gloomy English skies and grey winter light, and it maintains in mild English sunlight a robust richness than any bright colouring could manufacture. Furthermore its restraint allows the satisfactory geometrical forms from which the buildings are composed their maximum effect. The romantic situation in which lighthouses occur needs no dramatic aid.

The indefinable sense of style which even the disorderly back yard of a lighthouse may demonstrate, as in one of the illustrations accompanying this article (number 20, the lighthouse at The Lizard) is a quality we are accustomed to find accompanying the spare economy of nautical accessories, but another remarkable quality of this nautical way of building is its timelessness. We are so apt to date a building by its appearance that it is strange to come upon a consistent style and manner that makes it hard to distinguish between an example of the last century and a new one. Even the faint Gothic flavour found in the architectural details of the earlier examples occurs as a mannerism neither ancient nor modern but simply characteristic.

However it is not lighthouse architecture as such that we are concerned with; only its significance as an example of the architectural assimilation of the black and white idiom. With it we can now leave the sea and pursue the same tradition inland, though we may observe the idiom in passing applied in many varying ways, simply or decoratively, in the domestic and other buildings of our seaside towns. Inland we find the tradition recurring where we should expect to: wherever the equivalent functional necessities of the ones we have studied on the sea introduce the idiom on practical grounds, leaving it to develop as it may into a style of decoration and design. The lock machinery and other accessories of our canal systems are painted black and white; so are railway signals and other railway equipment. The railways have evolved out of cast-iron a characteristic style of notices and signs: white letters raised in silhouette on a black background. But, most striking of all to-day, the quick visibility of the black and white pattern has been adapted in comparatively new ways to the roads. We have

[Continued on page 175]

# W H I T E



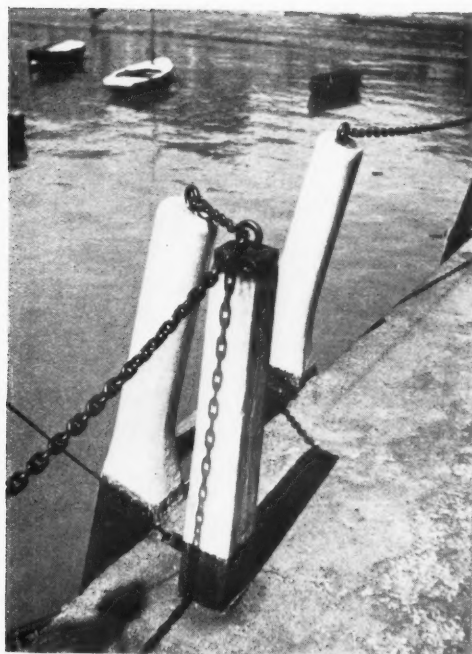
Our national tradition of surface design in black and white finds its beginnings by the sea : in its most elementary form in black and white painted boats, 1, with lettering in white on a black gunwale. On the harbour-side quays, 2 and 3, the same idiom is repeated ; also in the nautical accessories—rails, signal-masts and capstans, 4, 5 and 6—and many similar objects characteristic of the harbour scene.



2



3



4



5



6



# B L A C K   A N D   W H I T E



7



8

7, a more architectural example of the black and white of nautical accessories: a lighthouse painted in the customary distinctive way. But in architecture itself the same tradition occurs in the characteristic seaside use of whitewash and tar, 8, 9, and 10. 10 and 9 make an interesting contrast: one the familiar West-Country fisherman's cottage with limewashed walls and tarred black plinth, doors and windows; the other (also from Cornwall) the less common instance of the colouring reversed.



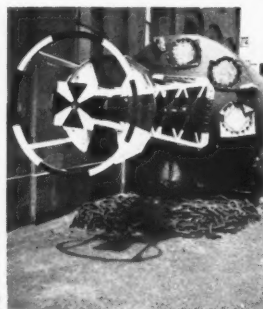
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10



11



12



13

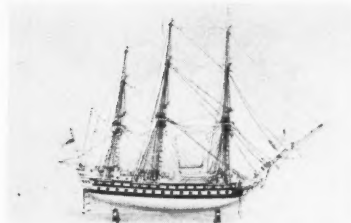
11 to 14 show the functional use of black and white to produce maximum visibility. 11, a seamount on a rocky promontory: black paint and white concrete. 12, a bell-buoy, with a black and white pattern painted on the bell-cage. 13, the standard chequering of the Trinity House can buoy. 14, the cylindrical body of a lighthouse ringed in black and white. Out of this geometry, and the use of the characteristic materials, the tradition of design evolved.



14



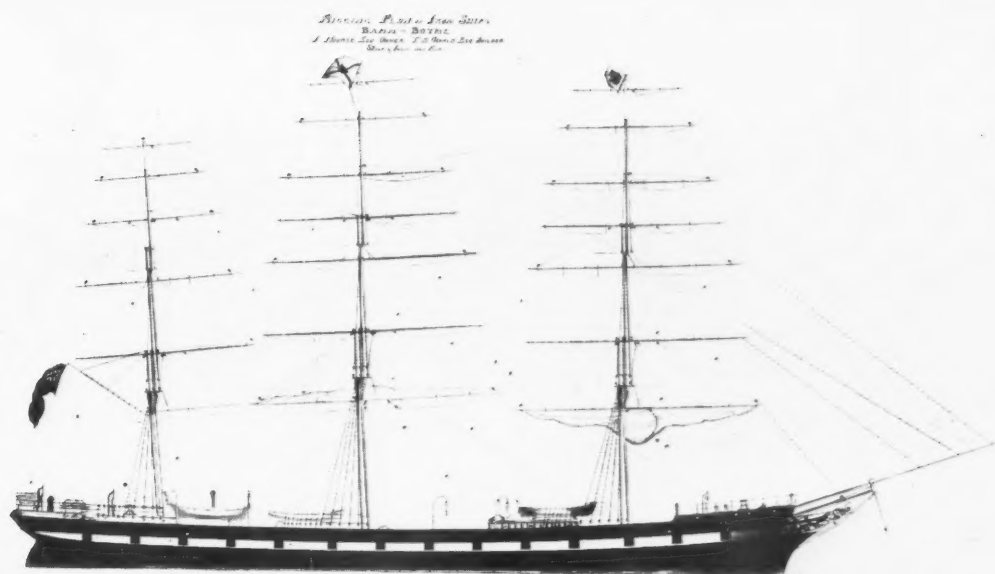
# W H I T E



15

On the sea itself the motif established by the regular spacing of square gun-ports, painted black, on a white or yellow ground, as in the line of battle-ships, 15, led to the custom of painting the hulls in a non-functional black and white design, 16.

16



17



18

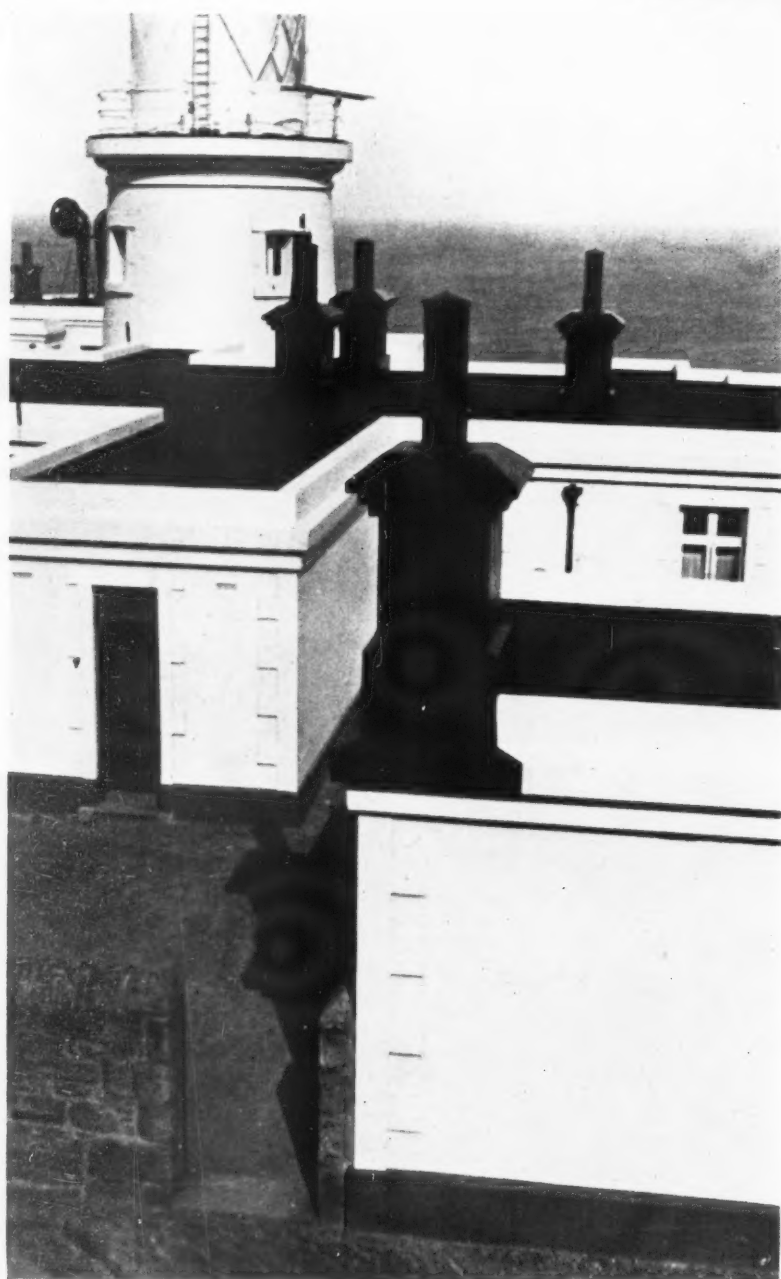


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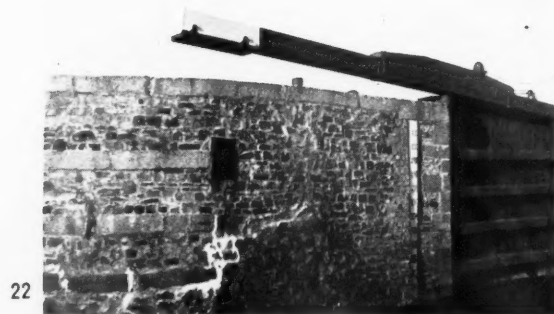
When the process observed above in the ships is repeated on land—when a formal use of black and white supersedes the simply functional one—we can say that the idiom has become significant from the point of view of design. 17, a tarred beach hut, relieved with white paint in the customary way. 18 and 19, the same two colours applied in a spontaneous decorative way to produce the familiar striped beach hut of our English coasts.

In a more subtle way than that demonstrated by the beach-huts overleaf the exterior treatment standardized by Trinity House for its lighthouse buildings shows the adaptation of the nautical black and white idiom to architectural design: the characteristic white walls with black chimneys and white lanterns with the outlandish shapes of foghorns painted black, 20 and 21, give a remarkable dignity and serenity to this category of building.

20



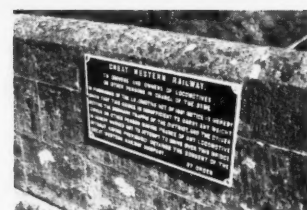
21



22



23



24



25

Leaving the sea we can trace the same tradition of black and white inland, particularly where controlled communications make the same demand for visibility. 22, on the canal locks. 23, 24 and 25, on the railways: the signal, a characteristic notice, and the elegant instrument boxes recently standardized by the Southern Railway.

# W H I T E

But it is chiefly on the roads that these obvious uses of black and white occur: as in the traditional country signpost, 26, and milestone, 27—



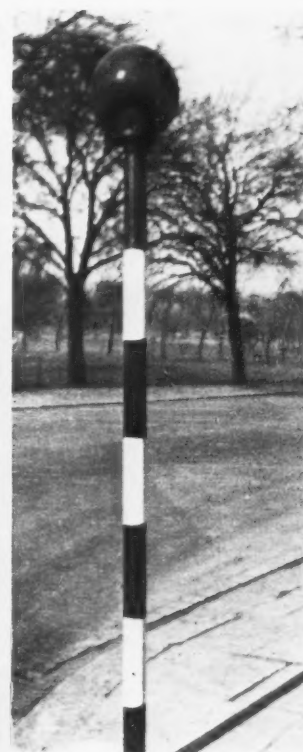
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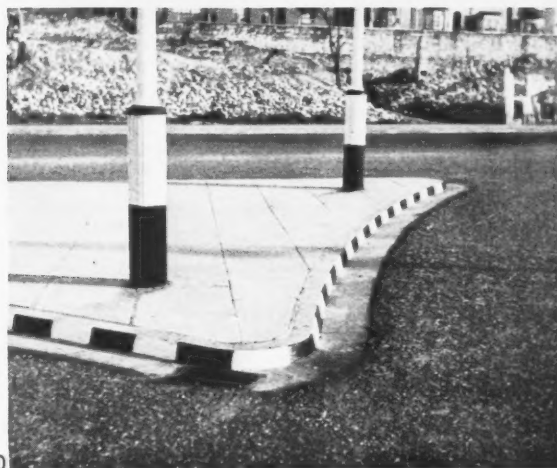
27



28



29



30



31

And, more strikingly nowadays, also in all the new signs and demarkations that the codified control of road traffic has brought with it, 28, 29, 30 and 31. Though functional in origin some of these have remarkable decorative qualities in design, and cumulatively do a little to restore much-needed order to the appearance of our road intersections.



B L A



32

32 and 33, posts or "bollards" from London streets collected for comparison. It will be noticed that the effectiveness of the black and white convention generally depends on the appropriateness of the form to which it is applied. The simple geometrical shapes of the well-known George IV example, 32 above, and of the top row on the right give the most satisfactory results. The two left-hand examples in the bottom row show black and white differently applied to the same shape: first in the usual way as an all-over surface patterning, and secondly (less typically) to pick out details of relief. The right-hand examples in the same row show simple modern adaptations for artificial illumination. 34, some bad examples; though the badness lies chiefly in the design of the form to which a black and white surface has had to be applied for reasons of expediency. In the photograph of the "keep left" sign, which is unfortunately now standardized in many parts of the country, the clumsiness of the design is emphasized by the neatness of the pattern made by the white kerbstones against the black asphalt island—a sound example of design in this idiom.

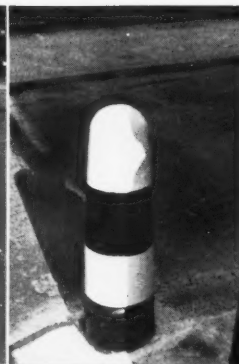
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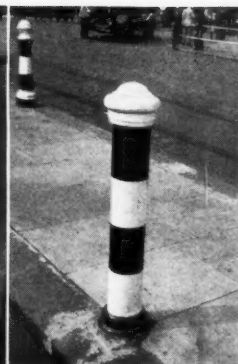
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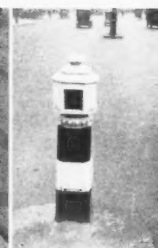
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N



D



The black and white tradition has spread, by way of the accessories of the arterial road, 35, to the architecture along the road. 36 and 37, roadside inns, showing a characteristic architectural use of the idiom which bears the same relation to the objects illustrated on this page as the seaside houses do to the buoys and capstans.



35



36



37



38

The ways in which the black and white idiom is used in architecture vary infinitely : from whole buildings—even villages—of various characteristic materials down to standardized regional treatments of small details. Here are three typical examples. 38, a solitary whitewashed brick façade among the brick and tile of an Essex village. A tarred plinth is common to both the whitewashed and the red brick walls, and the inn-sign high up on the wall shows a counterchange of white on a black ground. Doors and windows show our now familiar motif of alternating white and black. 39 and 40, all black and white houses : the first from Kent, of whitewashed brick with weatherboarded bay and everything else in black ; and the second, from Cornwall, with a whitewash ground floor and weatherboarding above and with black door and white windows within black window-frames. All three, as one would expect, are by the sea ; and all three show characteristic regional variations in the use of the idiom.



39



40



## BLACK AND WHITE



41



42



43

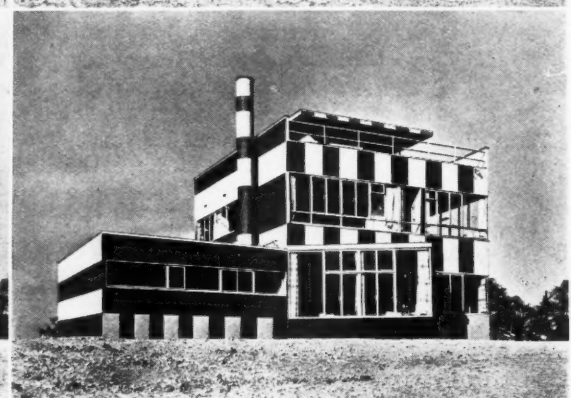
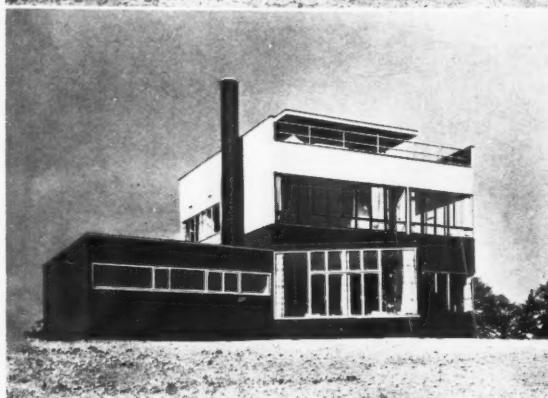
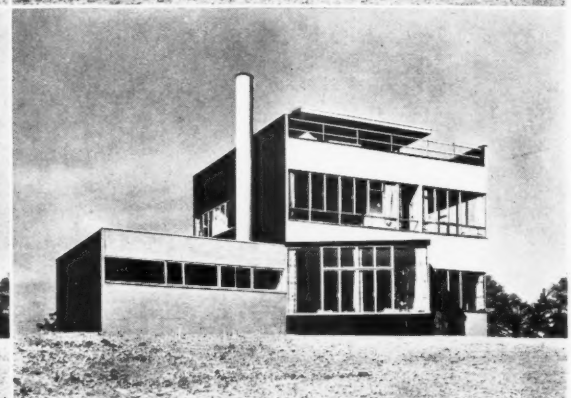
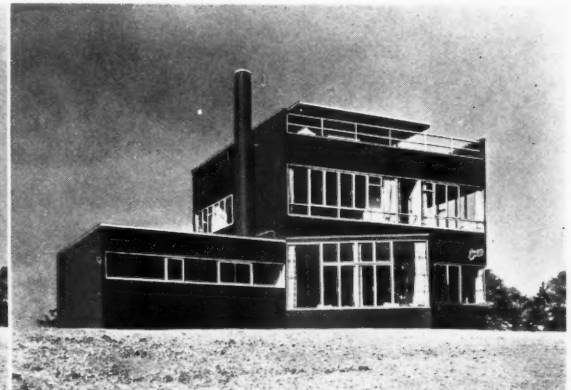
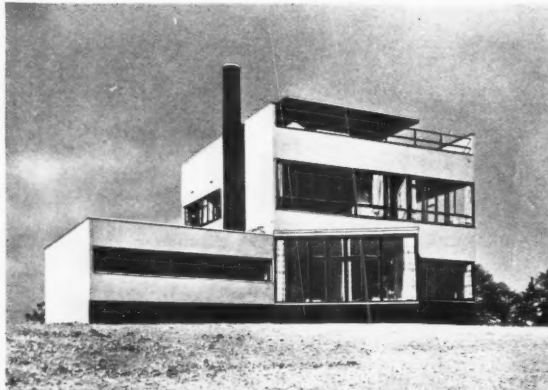
Three further examples showing various ways in which the black and white convention is traditionally applied to architecture :

41, a Georgian house by the sea. 42 and 43, roadside inns in Sussex and Devonshire.



44

So far as modern architecture is concerned, little attempt has been made to experiment with possible applications of the black and white convention, though its peculiar qualities are very much in keeping with the idiom of modern design and might even prove to be a remedy for the insipidity of surface that is often a failing of modern buildings in the English climate. For purposes of demonstration a house in Sussex, designed by Connell, Ward and Lucas, has here been taken (44 is the house as the architects designed and built it) and half-a-dozen manufactured variations shown alongside, 45. These are given to demonstrate some effects rather than to suggest what ought to have been done, and some of them, the bottom right-hand one for example, are deliberately made absurd to indicate the result of applying a general convention independently of its specialized architectural use. The others have some relation to the traditional use of black and white in building, some to a more and some to a less degree adapting the idiom in order to conform with the modern architect's attitude to form and structure in terms of which this particular building was designed. It



45

is interesting to note also that an approach to a similar treatment has actually been made in the building taken as an illustration since, although it is not visible in the photograph above, pale colour washes are applied to the walls to differentiate the planes.



[Continued from page 166]

long been familiar with the milestone (the land equivalent of the buoy and seamount) and the country signpost as simple functional uses of black and white, but recent development of motor traffic has brought with it a multiplication of signs and demarkations through which the black and white idiom has become an important factor in the pictorial development of the road-side scene. There is no need to describe the examples: Belisha beacons, warning notices, "delimit" signs, posts of all kinds, the chequered kerb-edges to arterial roads; these, more than anything else, have given to the new traffic arteries any neatness and unity of design that, confused by unco-ordinated planning, they may be said to possess.

It is difficult to appreciate the quality of these roadside accessories in the muddled setting in which they usually find themselves; and the suitability of the idiom to its use on the roads, on functional grounds, is too obvious to require discussing. But it is worth noticing that the idiom is used here with a consistent rightness which reinforces one's opinion that an instinctive rather than a conscientious taste governs the actual design, a legacy from maturer nautical experience. The Belisha beacons, whatever opinion one may hold of their utility, have a simple elegance—a spare efficiency and grace—that contrasts markedly with the cumbersome monuments to municipal taste that populate our streets alongside them. They and their kin, with the white square lettering stencilled on the black tarmac of the roads, are the most up-to-date functional examples of the idiom. And in the same way that sea-side architecture has adopted the idiom for its own, in a spirit, as it were, of sympathy and association, we now see signs of it manifested in roadside architecture, as black and white spreads along the arterial roads. The shining white façades of roadside inns, enlivened with black quoins, plinth and window cills, bear an unmistakable affinity to the white quayside houses we found adjacent to the boats, buoys and capstans.

Now the mention of black and white houses introduces a distinction that must be drawn if the nature of this black and white idiom is to remain unconfused. It might be said that there is in any case a tradition of black and white patterned façades, characteristic of this country, that has no connection with the seaside; namely that of mediaeval half-timberwork, in which black timbers contrast with the white areas of plaster infilling. The distinction we have to make is that this use of black and white, though in parts of

the country—Cheshire and Herefordshire for instance—it has been elaborated into one of formal design almost for pattern-making's sake, is actually structural in origin. The idiom that we are studying consists in the disposition of black and white areas over the surfaces of an object—in a pattern that may, as in the case of a chequered buoy or a Belisha beacon, be determined by function, but which is not determined by the underlying form. The areas thus contrasted in black and white may happen to conform to structural form below, but the difference is produced—the difference, say, between the white hull and the tarred keel of a boat or between the white walls and black plinth and doorway of a fisherman's cottage, only by the application of a surface medium. This distinction may appear arbitrary, but it is important that it be understood, as the whole essence of the quality and the continuity of the idiom we are examining lies in this character of surface design. In any case, such affinity as there may be between the one architecture of black and white and the other only bears out our contention that the studied use of these two colours is a national tradition. It is in explaining anything that these may have in common that the climatic and atmospheric influences that we have already referred to come into play.

We have traced the occurrence of the black and white idiom in its progress from the sea-shore to the arterial road. We can now go further to define its pictorial characteristics. We have observed in it the paradoxical association of severity and gaiety. Sharpness of contrast is one of the sources of gaiety—a more productive one than colour as such; and particularly the avoidance of mixed tones and those pastel shades with which an age of gentility has effaced our native tradition of strong, pure colour; and severity is a concomitant of the restraint that belongs to the idiom's functional origin. A further claim it has to our admiration is the sparkle it retains in all kinds of light. Our climate, with its moisture-laden atmospheric quality, is notoriously unsuited to the multiplication of bright colours. By absorbing all the light or reflecting all of it an alternation of simple black and white retains the purity of geometrical contrast from which it derives its character.

This geometrical contrast is the essence of good design in this idiom. Simple geometrical shapes: the cube, the cone, the cylinder, are covered by a regular pattern of a nature geometrically related. Large plane surfaces display this pattern in its character as a surface application. Finally, a notable

quality the idiom possesses is a negation of scale. Scale in conventional architectural design is given by the repetition of units of appreciable human size and by the relation of these units to the whole; but in the use of the idiom we are studying the patterning of black and white ignores the human scale and often even disguises the architectural features that might preserve it. Consider side by side a black and white ringed lighthouse, perched on the edge of a quay or jetty, and a street bollard of similar shape on the paved edge of a traffic refuge. The two are interchangeable so far as scale is concerned.

The cumulative result of all these qualities is a kind of ornament, however, that demands considerable restraint in its use, having none of the natural restraint imposed by a code of ornament that follows form or emphasizes structure. Its very arbitrariness invites abuse as well as producing the curious free qualities we have noticed.

It is worth pointing out that a black and white idiom equivalent to that which we have been describing can be found in many branches of design besides in architecture, indicating, even where a functional origin is not very evident, a national fondness for design in black and white that factors of climate, atmosphere and racial temper may be sufficient to explain. In the province of costume, for example, the striped or chequered football jersey, and the pied stockings worn with it, are based, like the buoy or lighthouse, simply on quick visibility; but the more elaborate stylization of formal evening dress, though its design has evolved more obscurely, through the usual process of the vestigial survival of once rational elements, shows a similar idiom applied in a purely decorative way. And in the sense that England introduced both football-teams and evening dress to the world these can both be described as manifestations of a national tradition.

A large flag, chequered black and white, which an individual frantically waves as competitors roar past, is the most vivid memory of motor racing at the news-reels; and what would the English sweetshop be without bulls-eyes and liquorice allsorts? Examples could be added indefinitely, but the aim of this article is not the accumulation of parallel cases. It is the discovery, having established the existence, of a peculiar idiom of black and white of how the qualities of this idiom can be related to the needs of modern architecture.

It is hardly necessary to repeat that there is no suggestion that the use of black and white is in any way a virtue of design in itself. It only represents an idiom—a convention if

you like—that is susceptible to good or bad use as much as any other architectural style. Appropriateness of form and material, proportion and so on—the usual criteria of abstract design—continue to play their parts, but, as we have said, many of the customary limitations, on which conventions of design are founded, are absent. The very freedom with which the idiom can be used simultaneously invites abuse; and in studying the architectural uses of the idiom we have to place beside the admirable vernacular examples that we have referred to in passing innumerable instances of a modern use of it—where the consciousness of art has been present but the charm and quality has been lost.

Amongst the collection of examples that forms the illustrations to this article are a number of buildings in which the black and white idiom is appropriately used. These are mostly of the vernacular kind; cottages, inns, coastguard buildings; partaking of some local design tradition, in which the idiom is used as much from local habit as from any specific striving after artistic effect. The variations to be found in different parts of the country are so many and so subtle that we cannot begin to differentiate between them; they are also less easy to isolate than the simple non-architectural examples (such as street-accessories) that we have studied in some detail. They often take the form of parts only, large or insignificant, of an architectural whole in which an arrangement in black and white—such as the whitewashed porch of a roadside inn with its black-tarred door and settles—is isolated against the flint or rubble façade of the building itself. Or they consist in the habitual local way of painting some local type of farm building, gate or boundary. It is by the sea, as we have observed, that these related traditions most strongly prevail.

In any case their appropriateness, even if it is only the appropriateness that we are accustomed to find in traditional craftsmanship, is based on some forgotten principles of design allied to the simple principles of restraint and geometrical integrity and the appreciation of the character of the

idiom as a surface application that we have already examined.

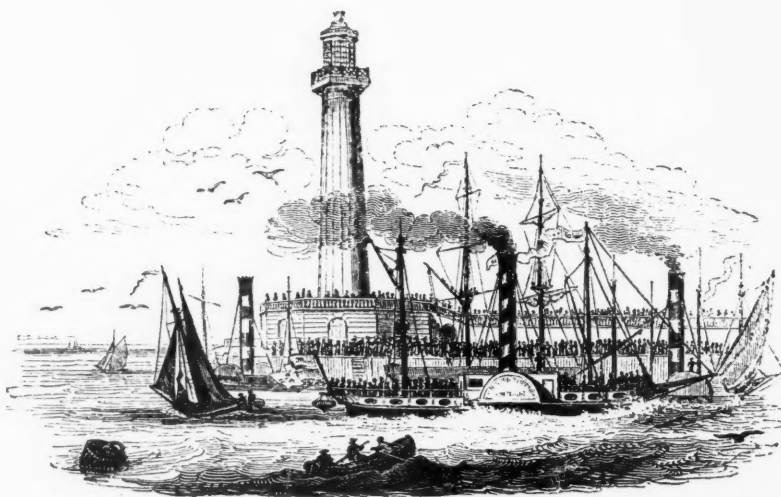
In contrast to these we know the modern applications only too well: Georgian or pseudo-Georgian front-doors glorying in the refinement of pure black and white, but artistically unconvincing; far worse the striped or quartered—or even chequered—shutters in the Dutch style that adorn the exteriors of tea houses, whose interiors display the idiom run riot even to a magpie weave in the manufacture of basket chairs. And vulgarity of taste has been aggravated by the wealth of new materials: a whole category of examples could be drawn from the fashionable use of black glass as a sheathing material in shops, restaurants and milk-bars—with the white contrast supplied as often as not by the ubiquitous stainless steel.

The rules of good design in the black and white idiom are broken in these instances generally through a confusion of detail: through an all-too-common confusion of richness with elaboration. We have already seen how breadth of use is one of the foundations of the quality we found in vernacular black and white, and that patterning with some relation to the geometry of the form preserves the integrity of the whole. To use the idiom so needs courage as well as taste.

Now, this contrast is not a simple one

between old traditions and modern vulgar taste—such as the contrast that is continually being drawn between a Tudor cottage (in an idiom that belongs only to the past) and its suburban imitation. The point is that the tradition of appropriate design in black and white still exists—not only in the official painting regulations of Trinity House, but wherever the rules that govern the design are still observed by custom. The photograph of a striped beach-hut, reproduced on page 169, was taken this summer and, judging by the newness of the surface, was painted this summer also. Reduced to the simplest possible terms this is an example of the traditional idiom used with art for the embellishment of architecture.

The tradition is still alive for the modern architect to adopt as his own. Its strong, broad qualities are particularly suited to counteract the cheesy whiteness so many of his critics have reasonably disliked in his buildings—their tendency to insipidity in any but intense sunlight. We have already seen how appropriate is its use in the English atmosphere and climate. Its formal qualities, too, are at one with the already established characteristics of the modern aesthetic. It will not be the first time that the modern architect has gone for inspiration to ships and to the sea.



*The photographs which illustrate the above article were taken by the author with the exception of numbers 1, 5, 8, 13, 14 and 36, which were taken by Mr. John Piper, number 15, which is reproduced by courtesy of the Royal United Services Museum, number 16, which is reproduced from a drawing in the Science Museum, South Kensington, by permission of F. H. Mason, Esq., and numbers 44 and 45. Thanks are also due to the authorities of Trinity House for permission to take photographs in their buoy store at Penzance. Some further notes on the illustrations appear on page 219.*





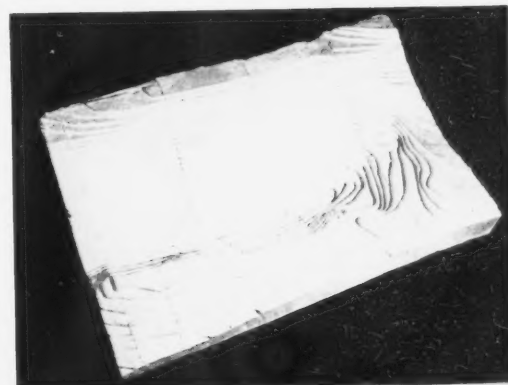






## THE ZOO AT DUDLEY *TECTON, ARCHITECTS*

Dudley Zoo was opened this summer as a place of public resort and entertainment for the large population of the neighbourhood of Birmingham, Dudley and Wolverhampton. It occupies the hilly wooded grounds of Dudley Castle, whose medieval keep still crowns the highest point of the site. About 15 buildings, including a restaurant and two cafés, have been erected, though the problem set to the designers was of course as much one of circulation and town planning as one of building itself. The photograph above, 1, of the bear ravine shows the typical free planning which utilises the natural features of the site. The strongly marked contours of the latter are indicated in the relief model, 2, of a characteristic section. The boldly cantilevered lower terrace over the bear ravine serves the double purpose of a view-point for the public and of a stage where chimpanzees sit down to tea while the public looks on from the curved terrace above. The latter gives a number of views of the bears including one from the south end into a subterranean cavern in the trough of the ravine.



2



## THE SITE AND THE PLAN

Most existing zoos have developed, in an unplanned and disorderly manner, from small menageries. The planned zoo has been a favourite subject for architects' projects and numerous schemes have been prepared in the past, ranging from rigidly axial Italian Renaissance compositions where elephants and humming birds alike are approached through pillared porticoes and lit through Palladian windows, to scientifically functional reserves where uninhibited animals roam happily in natural surroundings and only the public suffers inconvenience. If the architects on this occasion however had any preconceived ideas about the planning of zoos, these were quickly dispelled by the very special characteristics of the site and the circumstances of the enterprise.

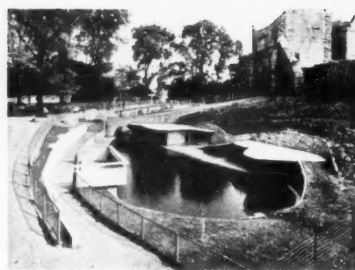
Dudley Castle, which is scheduled as an Ancient Monument, comprises buildings, now in a half ruined state, of the 11th to the 15th centuries, built round a central courtyard. The site for the zoo was the surrounding grounds of about 30 acres, which slope steeply down from the castle on all sides, forming terraces at different levels which correspond to the successive lines of defence of the mediaeval castle. The steepness of the site may be gauged from the difference in level of about 150 ft. on a site only 350 yds. by 400 yds. The thickly wooded castle grounds rise steeply from the surrounding industrial country which stretches for miles in every direction and where there live, in the cities of Birmingham, Wolverhampton, Dudley, etc., about three million potential visitors to the zoo. The communications are unusually good: a railway station and the terminus of the Birmingham tramway are within a few yards of the entrance, which is on the main Birmingham-Wolverhampton road.

But if some circumstances were highly favourable to the construction of a zoo, others were not. The steepness and shape of the site, combined with the dominating position of the castle, give to it a remarkable unity and character: but these same characteristics reduced the number of possible sites for buildings and enclosures, and made the actual constructional work exceptionally difficult. Transport problems to most parts of the site were considerable, and work on the steep and slippery ground became impossible in wet weather: supervision over buildings scattered in different parts of the grounds and at different levels also presented some difficulty. The selection of sites for the different buildings and enclosures was conditioned by other considerations as well. It was decided, for example, to use the existing roads and paths on the site as far as possible: partly to save additional expense, partly because to build roads in other positions would have been either impossible or very difficult. Moreover, under a large part of the site there are extensive caverns where in the 17th or 18th centuries there were limestone workings. Certain parts of

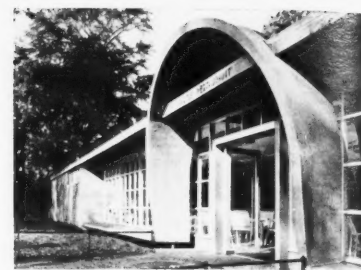
the site therefore, which were liable to subsidence, had to be avoided. Indeed, these old underground workings caused considerable trouble, chiefly because no accurate chart existed to show their position, and in the case of one building, the Bear Pit, excavation for the foundations revealed an unexpected cavity at least 50 ft. deep, and the whole design had to be radically altered. The presence of big outcrops of very hard limestone in many parts of the site, while offering a good foundation in certain cases, largely influenced the position and shape of the buildings, due to the difficulty and expense of blasting any large amount of rock.

Because the castle is scheduled as an Ancient Monument, the Office of Works, through their Ancient Monuments Department, had control over the development of the castle grounds. Thanks to the imagination and vision of Mr. Ormsby Gore, who was at that time in charge and who saw that, so far from the Castle's educational value being impaired, it would actually be considerably increased if the zoo was built, because of the infinitely greater public attendance and the greater care that would be spent in its upkeep, the architects had very great latitude in the design of the buildings. Some reservations, however, were made. The buildings placed near the castle (the Restaurant, Café No. 2, the Elephant House, the Sea Lion Pond, etc.) had to be kept low and as inconspicuous as possible in character, and the restaurant had to be faced in grey limestone. (The illustration of the Elephant House on the facing page is from the lower walk. Its top forms a terrace flush with the ground, so that the view from the Castle level is not spoilt.) The actual fabric of the Castle was of course to be left entirely alone.

The steepness of the site means that one side is more or less permanently in shadow, so that the buildings and enclosures of certain animals had all to be placed on the sunny side of the site. Another factor which determined the position of the buildings was the drainage system, which had to be connected to the public sewers. The drainage on a site of this character proved to be a very expensive item, as much of the excavation for the trenches had to be made in solid rock. It was therefore essential to keep the number of branches down to a minimum and to place the buildings in positions where they could be conveniently connected to the system, which had to follow a certain route in order to obtain a constant fall. Add to these considerations the fact that main access could only be obtained to the site at one point and that far from the most convenient one, and it will be seen that the layout of the different buildings and enclosures was largely predetermined. Such considerations as the grouping of species, and the placing of the restaurants and cafés in the psychologically correct positions played a minor part. In any case, whether the circulation of a zoo can be worked out



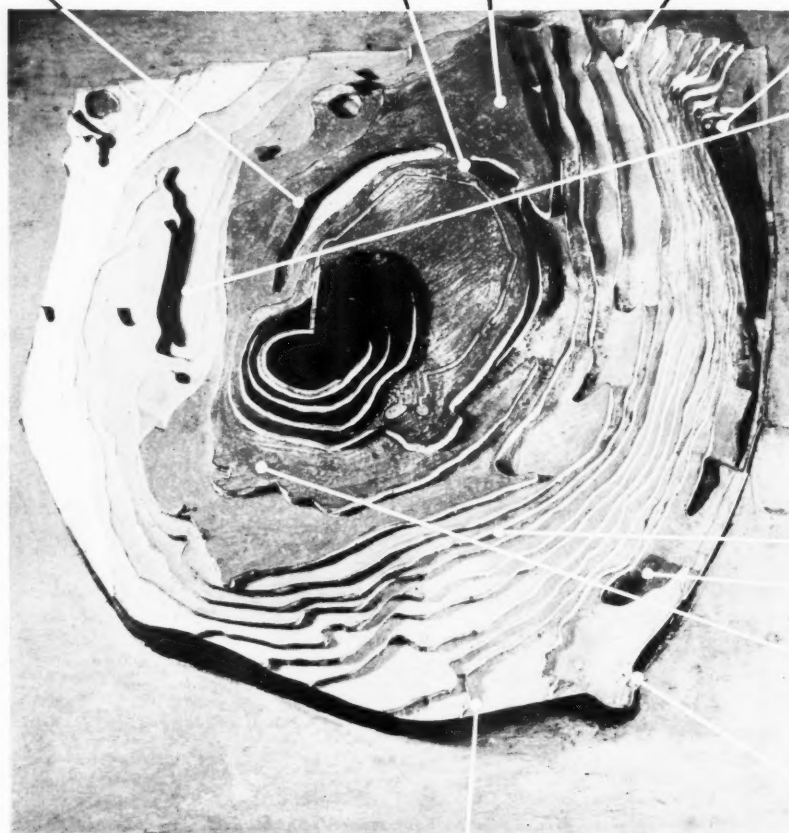
SEA LIONS



RESTAURANT



CAFÉ 2.



ENTRANCE



Above is a contour model of the whole site, showing its roughly pyramidal shape (the ruins of the mediaeval castle being at the apex). The site was well covered with trees. The small photographs are characteristic views of the individual buildings which are disposed about the site in the situations shown.

Z O O A T D U D





BIRDS



BEARS



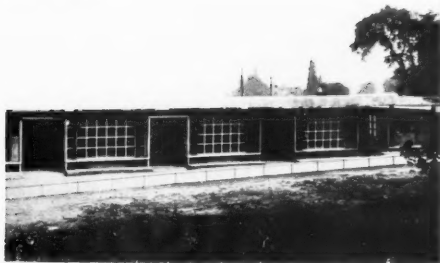
POLAR BEARS



ELEPHANTS

PENGUINS

CAFE I.



REPTILES



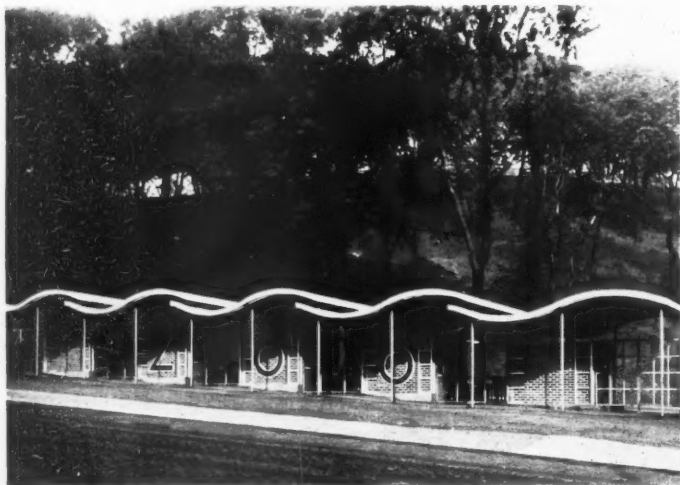
D L E Y , W O R C E S T E R S H I R E

[Continued from p. 178]

in any scientific way seems open to question. Sudden unrestrained activity on the part of a chimpanzee or other animal is apt to draw big crowds in a moment, and these crowds do not stop to consider whether the chimpanzee is related to the springbok or the ant-eater which they have hastily left, or even whether they have already once seen the chimpanzees. And feeding time in the different enclosures will disorganise any theoretical circulation. It is clearly important, however, to have a well defined layout with plenty of space for the public, where it is possible to find the way from place to place without having to go back to the entrance and start again, and where the entrances, exits, restaurants and lavatories are easily recognisable.

Here the comparatively orderly way in which the different lines of defence are arranged round the castle and the central position of the castle itself, which is visible from all parts of the grounds, bring order to a layout which would otherwise consist of a series of architectural "outcrops" occurring wherever the site and other considerations allowed.

It was important to avoid the effect of a mere naïve succession of individual buildings, and in the case of practically every building advantage has been taken of the steep nature of the site to provide a link between the paths and roads at different levels so that the buildings themselves, besides providing view-points for the public to see the animals, actually form to a large extent the vertical circulation in the gardens. Conventional planning on one plane indeed hardly existed here, the problem for the most part being one of planning the required accommodation in three dimensions. The buildings succeed in sustaining the atmosphere of a modern and homogeneously designed zoo, though it is to be regretted that the erection of various other structures and the addition of ornaments and fittings, of a character quite out of keeping with the buildings designed by the architects, tend to temper one's appreciation of the whole as a bravely carried out enterprise.



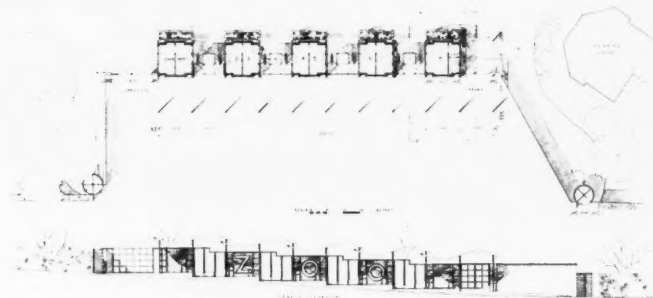
4



3

## THE ENTRANCE

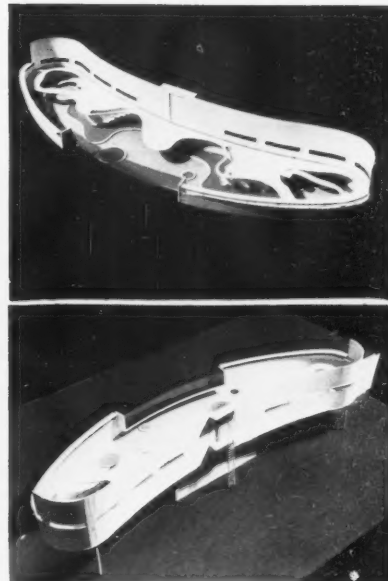
It was necessary to provide 8 pairs of turnstiles (each pair consisting of one entrance for adults and one for children) and 2 exit turnstiles in order to cope with the large crowds expected at week ends and holidays. As the depth available for the entrance was very restricted this demanded a very wide frontage. There was only one possible position for the main entrance, and that at a place where the ground slopes considerably. A horizontal treatment of the roof being impossible, the stepped interlocking roof was invented to overcome this difficulty. This roof, which is in reinforced concrete supported on steel columns, shelters the queues awaiting admission. The slots along the front of the slabs lighten the effect of the roof and protect the front edge of the slab from streaking, through soot deposits being washed over the edge by oblique rain. The sub-structure in blue brick consists of the turnstile operators' boxes, lavatories, cloakroom etc. 3, an oblique view of the entrance. 4, another view showing the steeply rising wooded hill behind. 5, plan and street elevation. Just within the entrance is the penguin pool, 6, 7 and 8. Advantage was taken of a steeply sloping bank to place the pool at a high level, and to provide at low level on the other side of the building a 20 ft. long observation window. The anti-reflection wall in front of this window can be seen in one of the two models of the building which form illustration 7. Hygienic artificial slabs, ramps, steps and floating islands are provided, the slabs being rubber covered to protect the penguins' feet from soreness. The reinforced concrete screen wall behind the pool acts as a wind shield and a background against which the birds are seen.



5

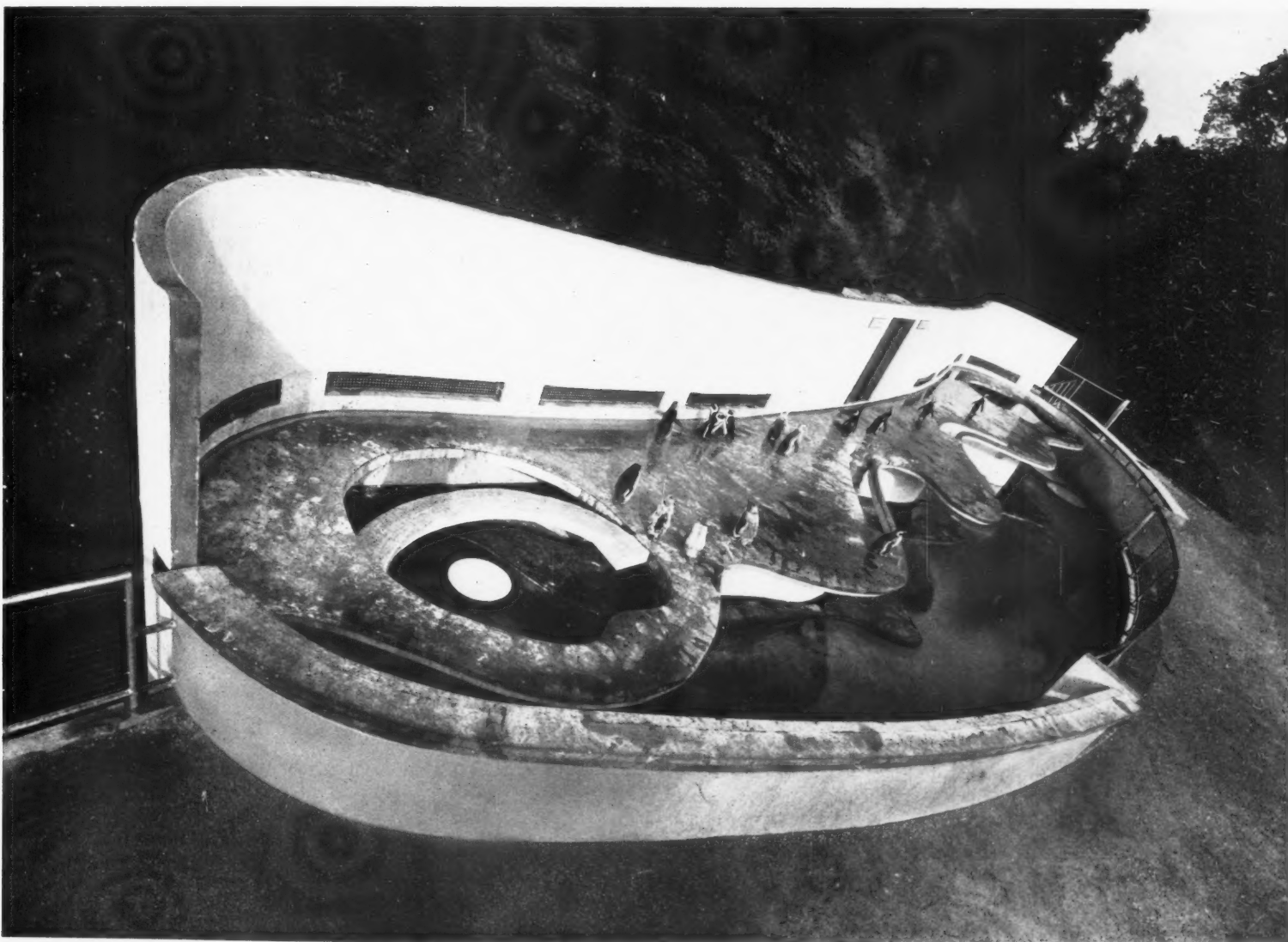


6



71

THE PENGUIN POOL



8



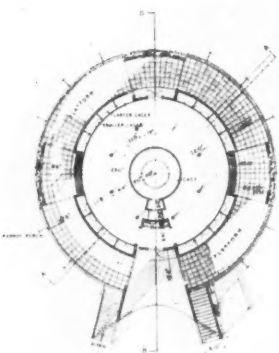


9

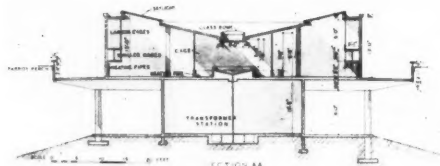


10

The site of the bird house slopes steeply to the east, and the cantilevered circular terrace around the building, starting at ground level on the west side, provides an elevated viewpoint on the east side over the surrounding bison paddock. The reinforced concrete roof over the central part of the bird house, in the form of a partial inverted flat cone, is structurally separate from the outer walls, being connected only by the double-glazed roof light which bridges these two parts of the building in a complete circle: see interior view on page 179. Underneath the bird house is the transformer station. 9, a distant view. 10, a close-up from the south. 11 and 12, plan at the upper level and section.



11



12

## THE BIRD HOUSE

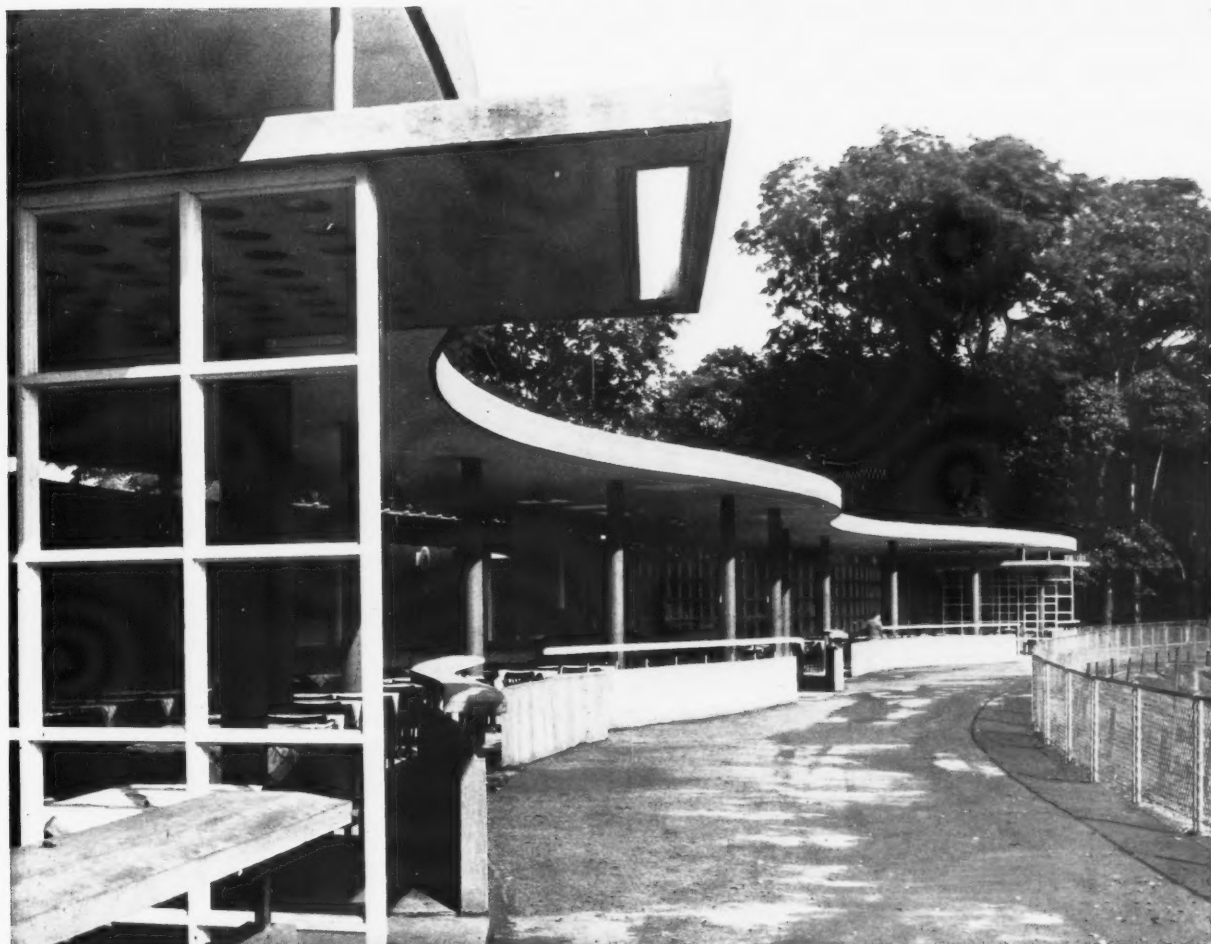
## THE SEPARATE BUILDINGS

In the design of the buildings the general principles have been adhered to which also governed the design of buildings by the same architects in Regents Park and Whipsnade. Certain modern opinion condemns anything in the nature of a building or paddock for wild animals, and would have us provide only reserves where the animals can live in their natural surroundings. Apart from the impossibility of providing natural surroundings for such animals as penguins or gorillas in this country, there are other disadvantages of this idealistic conception. Animals in their natural surroundings are notoriously difficult to see and the main purpose of a zoo is, after all, to allow the public to see the animals. The same opinion speaks also of the hygienic advantages of natural reserves; but zoologists agree that most animals properly kept in captivity are in a healthier condition than in their wild state.

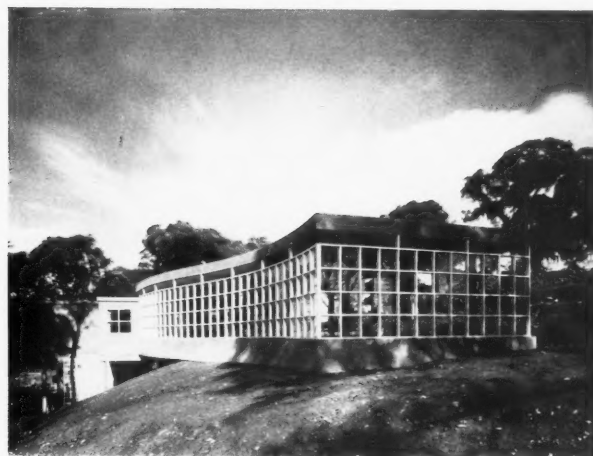
At Dudley no attempt has been made to reproduce the natural surroundings of the animals. The enclosures have been designed in order to give the best possible view of the animals to the largest number of people. Natural characteristics of the different animals, on the other hand, have been seized upon and an attempt made in the various enclosures to concentrate attention on these and bring them to the notice of the public. Instances of this are the diving ramps provided for the polar bear and sea lions, the concrete slabs at different levels for the lions and tigers to jump from, the glass panel in the side of the penguin pool for viewing the graceful diving and swimming of these birds, and the ramps and steps up and down which they can waddle with their absurd gait. For the sake of the hygiene and health of the animals, all enclosures have been designed so as to be easily cleaned. Resilient cork composition floors have been laid in the animals' dens, water is laid on to a pool in every enclosure, and efficient water changing facilities are provided for all the ponds.

Every one of the buildings is in reinforced concrete, and the advantages of this material, both from the point of view of the economical construction of cantilevers and large spans and from the point of view of freedom to design in free curved forms, have been very fully exploited. Constructionally speaking the advantages of reinforced concrete were magnified by the extreme irregularity of the site. To have made buildings of conventional brick or stone construction would have meant obtaining exact information about the nature of the ground on each of the many building sites, and endless complications with the foundations. Accurate contour surveys would also have been

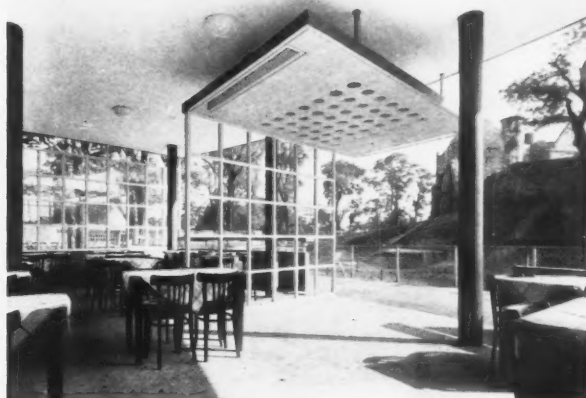
# DUDLEY, WORCESTERSHIRE



13



14

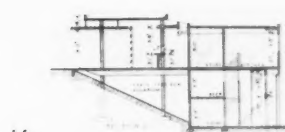


15

It was at first considered questionable whether a café should be placed in this position as it interrupts the view from the moat road down the steep wooded slopes of the castle grounds. However this site was finally agreed upon, but the building was made as light and transparent as possible, and the informal flowing lines of the roof were calculated to detract as little as possible from the character of the site. The entrances are indicated by floating slabs, and the floor slab and counter follow the flowing lines of the roof. Part of the counter is equipped as a cafeteria and part as a bar and soda fountain. The stores, beer cellar and staff rooms are at a lower level, approached from a service road at the back of the building. The main café is built on stanchions and it is intended at a later date to excavate the bank and use the space underneath as an aquarium or other building. 13, the main front, 14, the back. 15, an interior. 16 and 17, section and plan.

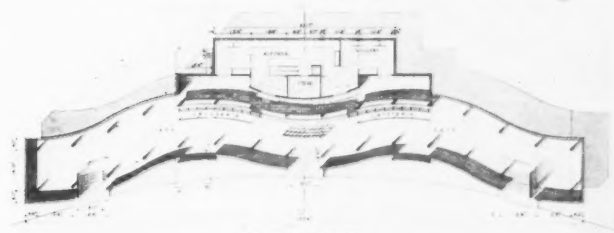
necessary to determine the proportions of the various elevations, and the ground would have had to be made up all round the buildings at great expense. The system used wherever possible for these buildings avoided this necessity by raising the buildings and terraces on isolated point foundations and columns, so that the nature of the ground needed only to be known at

certain points, and the approaches and subsidiary parts of the building could be freely designed to suit the ground contours. This was particularly important in the case of this job, which had to be completed in a short time and to a definite opening date. To have made accurate detail surveys of the site and careful adjustments of the



16

## CAFÉ No. 2



17





18



19



20



21



22

## THE RESTAURANT

The shape of the restaurant, of which 18 and 19 are general views by day and by night and of which 20 is a general interior, was determined by the strongly symmetrical apex of the site, which here slopes steeply down to the east and the west giving a fine view over a large part of the grounds. The windows are inclined outwards to accentuate its character of an observatory. The formal arched entrance compares with the informal approach to the neighbouring café 2. By lifting the roof slab of the restaurant in a conic form the volume of the room is increased without adding to the apparent exterior height of the building which had to be kept low at the specific request of H.M. Office of Works, who also insisted on the stone facing to the main elevation, 18, facing the castle. The bar, 21 and 22, serves customers in the entrance lounge and also serves the restaurant through a hatch in the back wall. On the facing page are a plan, 23 and a site plan and some diagrammatic details of the construction, 24.

[Continued from p. 183]

building to it would have taken far too long.

In order to expedite the work and to reduce the building costs the constructional work was standardized as far as possible; and by using standardized elements throughout the zoo an architectural unity and a consistent scale are achieved. As a first step a standard public balustrade was designed which could be used in various forms and combinations. This balustrade was used in one form or another in nearly all the buildings, and is illustrated on page 185. The shuttering for the balustrade walls was of corrugated iron sheets,

which gives a pleasantly textured surface and disguises joint marks and minor blemishes, but has the disadvantage of being difficult to make good if the original concrete work is not properly executed. In certain buildings (the Bear Pit and the Polar Bear Pit) this balustrade has been developed into a standard public terrace, ten feet wide, supported at 20 ft. intervals by centrally placed columns with mushroom capitals. For the Cafés and Restaurant a standard form of construction has been used, consisting of 9 inch diameter columns, carrying, by means of external and invisible beams, a flat slab which is flush with the underside of the beams. In the Restaurant this is

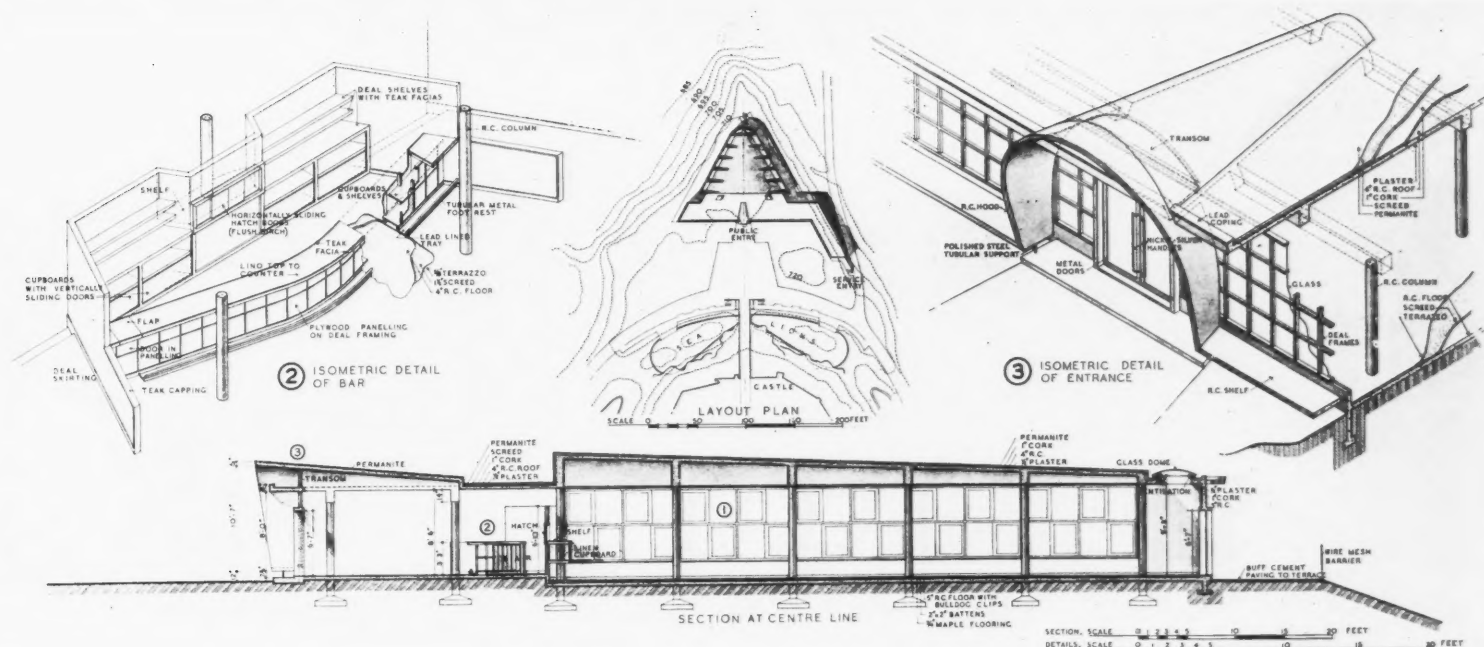
varied over the central part of the roof by giving the slab a conic surface, so that in the centre of the span it coincides with the top point of the beam, and the underside of the beam is exposed.

Various other features of the constructional work were standardized as far as possible. The fencing for the paddocks was confined to two types, one suitable for comparatively large animals (deer, llamas, etc.) and one for small animals and birds. This makes it possible to change the animals round from paddock to paddock. The concrete slabs used in the Lion, Tiger, Bear, Sea Lion and other enclosures, which are provided in order to induce the animals to jump from place to place, and also for them to rest on, were simplified and kept to a uniform type, so that once several of these had been constructed under careful supervision, the rest could be indicated by rough sketches and entrusted to the contractors.

An interesting attempt was

made, through the employment of a working technique of this sort, to do something to re-establish in the mind of the craftsman the all-important understanding of the design he is executing. The increasing divorce between conventional architectural style and current building constructional practice has produced confusion in his mind. He cannot be expected to have pride or interest in work which seems to him to have no rhyme or reason. But if the modern architect is to see his buildings well built and finely finished (and the modern style, drawing its inspiration from machine-made products and scientific standards of precision and accuracy, is very dependent on fine finish and precise effects) then the educational role which the modern architect must fill is a very important one. At Dudley Zoo, where the various buildings were in different parts of the site and under different foremen, and where work had to be done at great speed

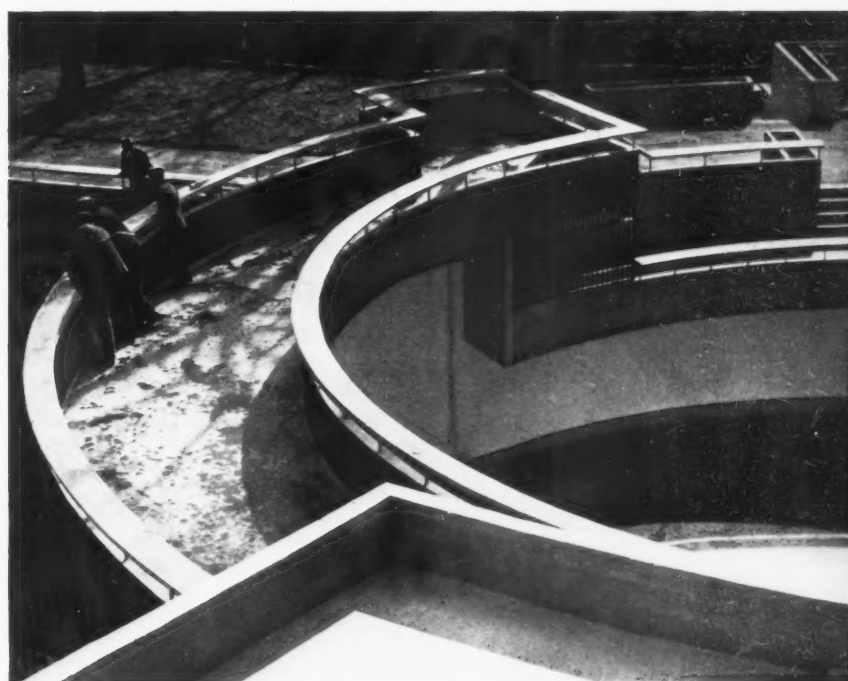




A standardized parapet and railing occurs throughout the whole zoo. It is seen below, 26, in the gallery above the polar bear pit. Its purpose is to form a parapet of comfortable height for adults to lean on but still to allow children to look without having to be lifted up. The parapet is shown in use in 25 on the right. It is 3 ft. high overall, the coping, in reinforced concrete cast in situ, being supported on oval-section drawn steel tubes. Further illustrations of the polar bear pit are given overleaf.

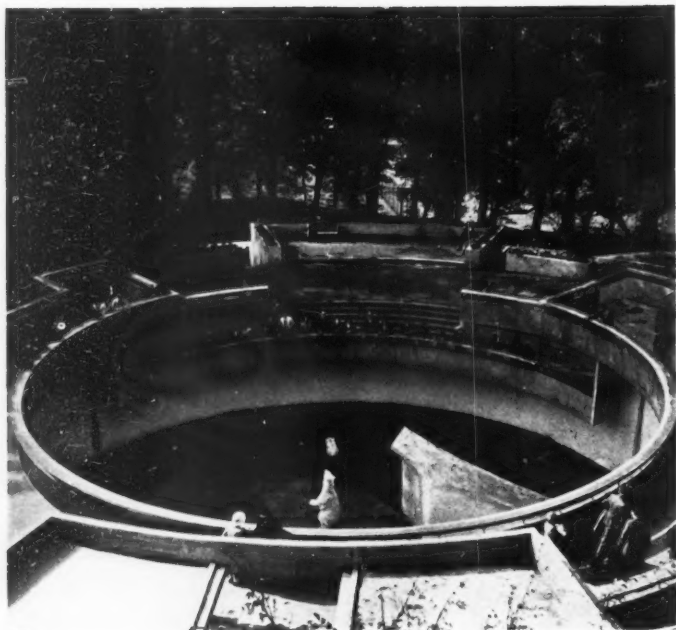


25

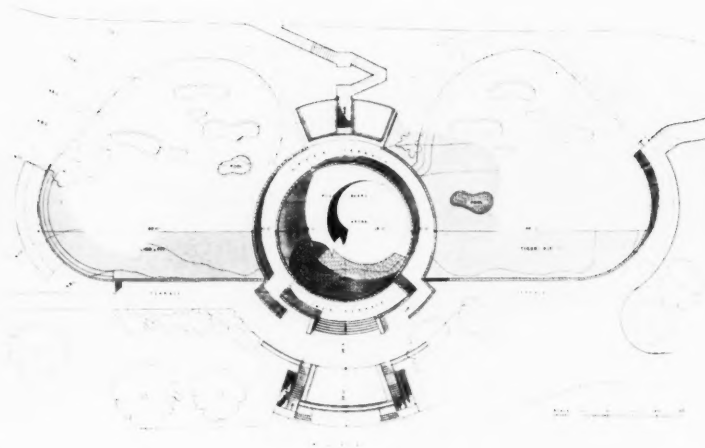


26

under difficult site conditions, any delicate constructional details or design which might be difficult of execution were deliberately avoided. But none the less the architectural style bears no resemblance to conventional contemporary practice, so that a great deal of time and trouble was spent in explaining the various details to the reinforced concrete foremen and the various craftsmen working on the job. The reasons for such details were explained and the execution of the work carefully supervised. This applied not only to the actual buildings, but also to the fencing and barrier railings, the roadwork, paths, and steps, the construction of retaining walls, and so on. As a result, towards the end of the job a sufficient building morale had been created among the different workers to ensure that any additional work which was ordered would be executed with attention to detail and in a slightly manner without constant and tire some supervision by the architects.



27



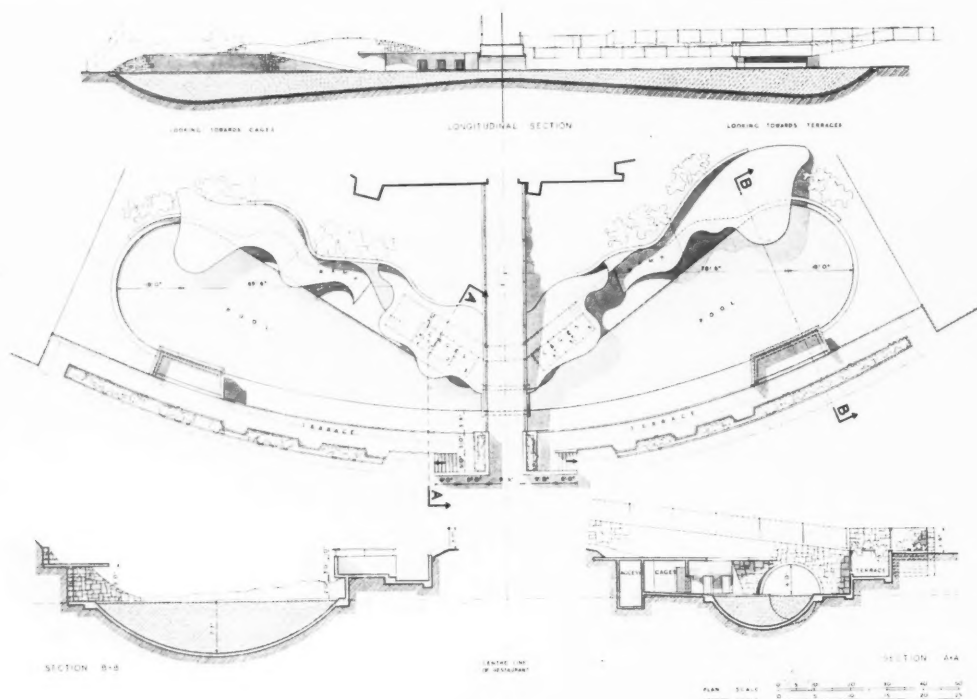
29



28

## THE POLAR BEAR PIT AND RAVINE FOR LIONS AND TIGERS

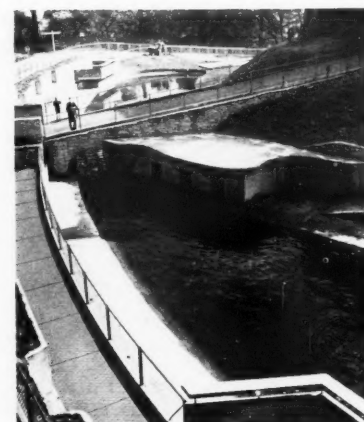
A deep ravine was adapted to provide these three enclosures. As shown in the plan, 29, the circular polar bear arena was placed in the centre with an elevated terrace round it which bridges the ravine and affords excellent views of all three enclosures. There are lower terraces along the west side of the enclosures from which the animals may be seen at eye-level, the lions and tigers disporting themselves on the concrete slabs placed at various levels in the steep side of the ravine and the polar bears on the diving ramp which overhangs their 8-ft. deep swimming pool. The animals' sleeping quarters are placed out of sight underneath the public terraces. 27 and 28, the polar bear arena. A close-up view is given on Plate II.



30

## THE SEA-LION POOL

The contour model, 32, shows the symmetrical and strongly moulded shape of the site for this pool in the Castle moat. The plan, 30, and the photograph, 31, show how this shape has been respected in the design of the pool. The two halves of the pool are joined beneath the central bridge which leads from the restaurant into the Castle court, and the sea-lions have an unrestricted length of over 200 feet for swimming. Special balconies for the public overlook the diving ramps at the deep parts of the pool. There are smooth and easily cleaned concrete slabs for the sea-lions to rest on, connected to the pool by ramps. The sleeping cages are placed centrally beneath the projecting slabs.



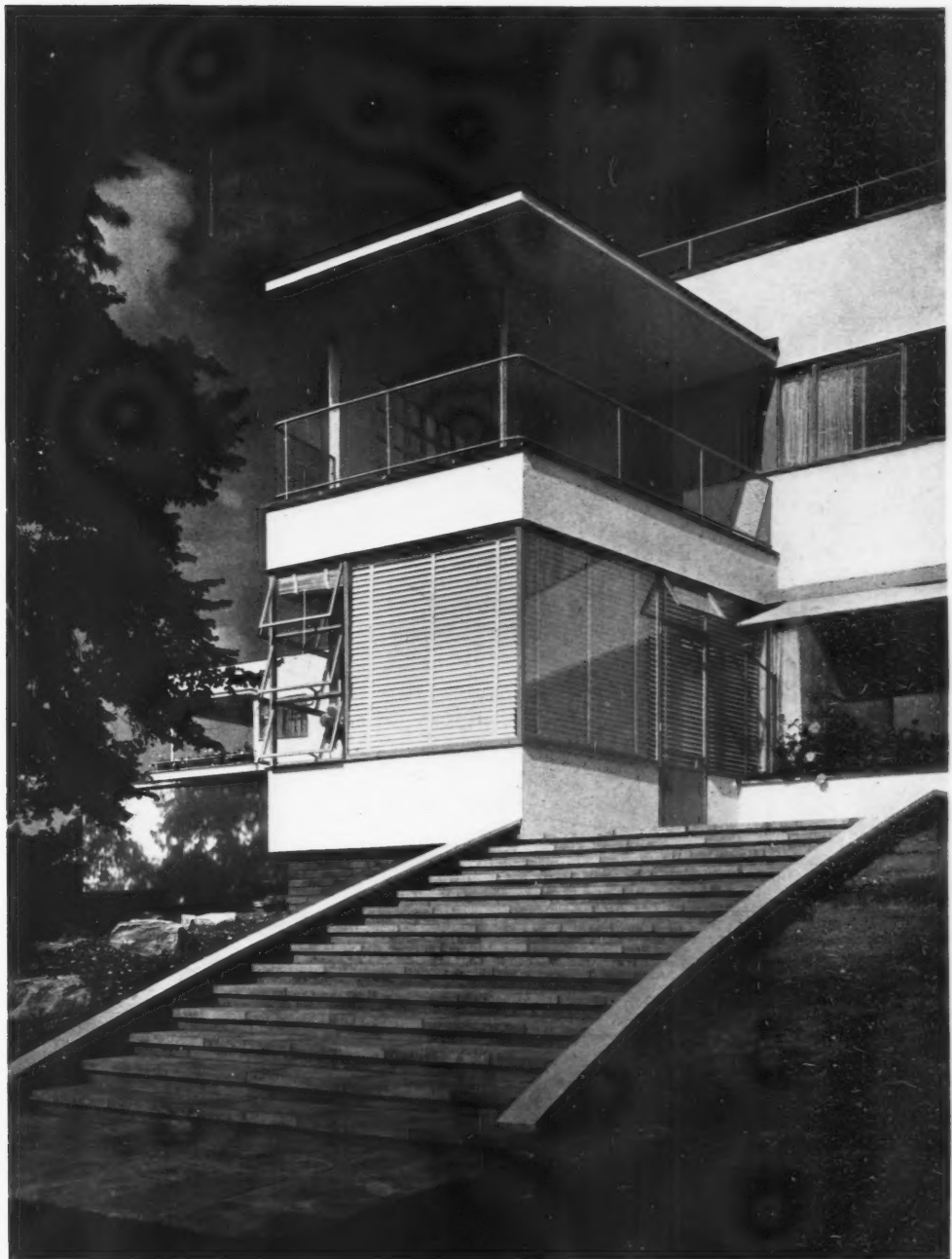
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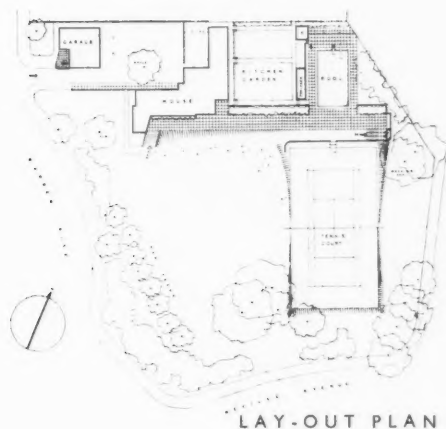
32

ZOO AT DUDLEY, WORCESTERSHIRE

# A Surrey House in a Park



E. MAXWELL FRY, ARCHITECT

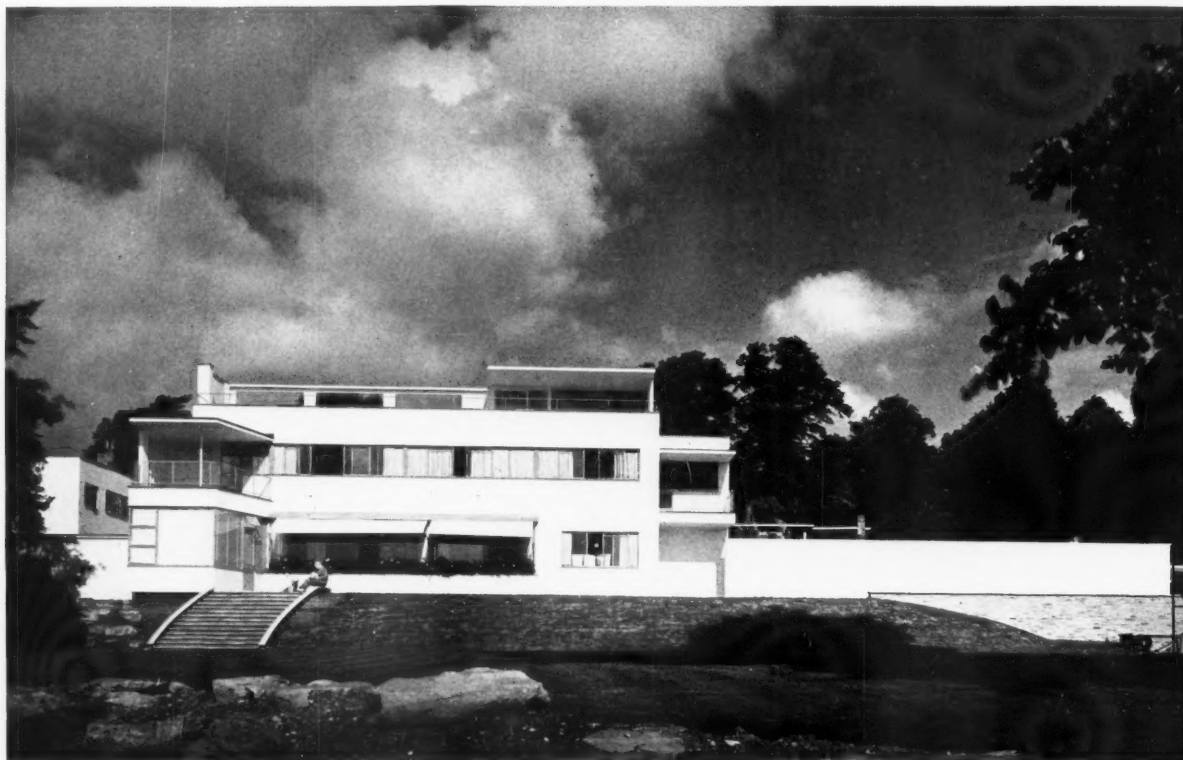


An old park not far from Kingston, containing fine trees, was recently broken up, and this house has been built on a part of it. The principal rooms all face a garden screened by the trees. 1, a detail and 2, a general view of the garden front, the former showing the sun-room with blinds drawn.



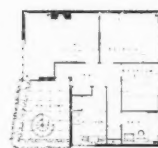
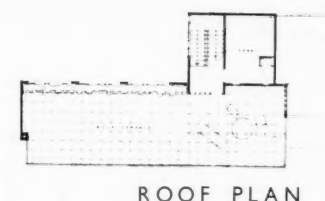
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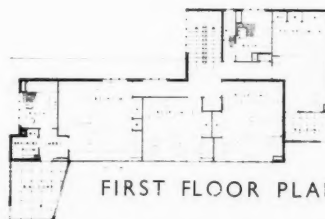


3

The fine trees already existing on the site and the rise of the ground from south to north made the highest ground, away from the road, the ideal position for this house; the sunny aspect coincided with the best outlook and the distant view. The plan places the windows of all the principal rooms on the long south front, 3, which is carried on by the wall seen in the photograph. This wall screens a garden court and shelters a terrace leading to a swimming pool. The disposition of these is shown in the lay-out plan on the previous page. In order not to break into the seclusion of the garden, which serves as a direct extension of the sun-room and terrace on the south front, the main entrance has been planned right at the back with the approach to it actually along one side of the garage yard—see the ground floor plan adjoining. This unusual merging of working space with formal entrance space is obviously economical and has so far not proved unsatisfactory in use. The entrance is flanked by a detached garage building, 4, with a chauffeur's flat over it. The approach to the front door, protected by a long cantilevered canopy, is shown in 5. 6 and 7 are views along the south terrace looking towards the house and away from it. The roof has a large paved terrace, 8, partly protected by a canopy and equipped with built-in flower-boxes whose construction is shown in the sketch. There is a food lift up to the roof for serving tea.


PLAN OVER  
GARAGE


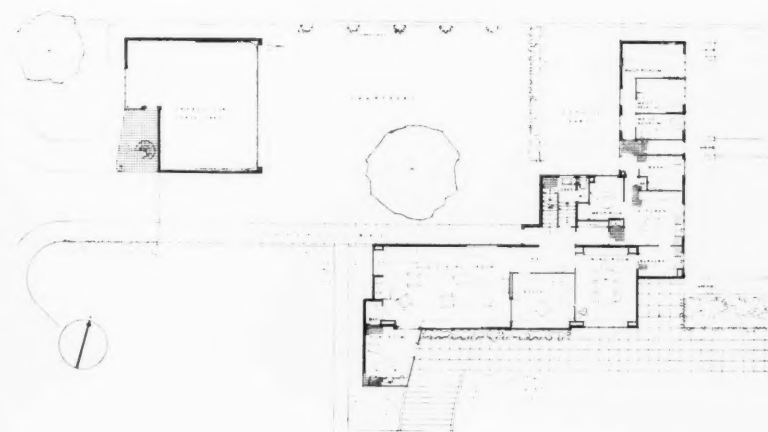
ROOF PLAN



FIRST FLOOR PLAN



4



GROUND FLOOR PLAN

# A P A R K



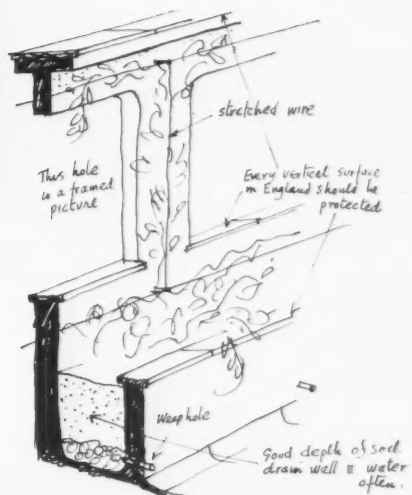
5



6



7



8





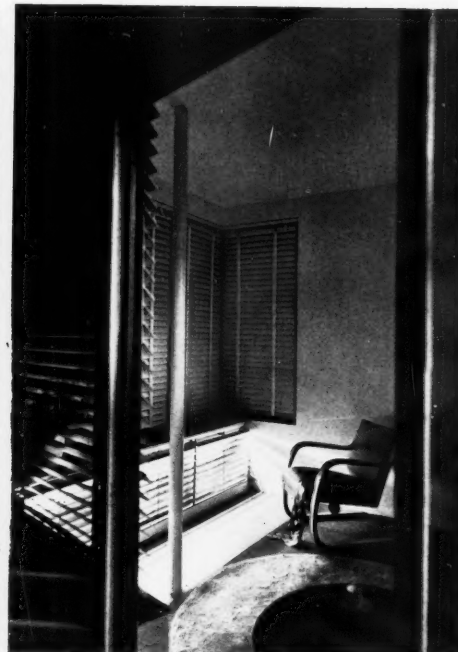
9

The factors that determined the placing of the house on the site have already been described. The internal arrangement of the rooms naturally follows from the utilization of sun, view and garden on the south front. The three principal rooms on the ground floor occupy the full length of this front and the service quarters form a smaller wing at right-angles. Note the provision of a small kitchen court, walled off from the main courtyard, giving privacy to outside domestic operations. The principal living-room, 9, is connected at one end with sliding doors to the study, the windows being continuous: at the other end it has a small bar with rolling shutters to conceal it when not in use. A large sun-room opens off the living-room and through it access is provided to the terrace. This sun-room is the dominating element of the exterior (see illustration 1), and the roof of it forms a balcony to the principal bedroom above. 10, looking from the sun-room along the terrace. 11, the sun-room at night with the venetian blinds drawn and the specially designed electric convection heater below the windows serving also as the source of light. 12, the sun-room by day, showing the large area of window that can be thrown completely open. The construction of the house is entirely reinforced concrete, with small-diameter steel columns used as points of support where minimum interruption of light was required, as in the sun-room illustrated opposite. The concrete is treated externally with concrete paint of a cream colour. The pleasant effect of the juxtaposition of this finish with rubble stone walling is noticeable in the garden. The essential neat finish of canopies and parapets is provided by the use of copper. On the south front gaiety is added by a yellow sunblind that pulls out over the ground floor windows. The design of the sliding metal windows used throughout was specially worked out by the architect in collaboration with the manufacturer. The equipment of the house is entirely electrical.

Several systems of heating are used; ceiling panels in the bedrooms, adjustable radiant panels in the bathrooms, tubular heaters generally and the specially designed convection heaters already referred to in the living-room and sun-room. The architect designed all the built-in and most of the movable furniture, and supervised all the decoration and furnishing. In the living-room illustrated above the crescent-shaped sofa is upholstered in scarlet leather, the walls are cream colour, the floor Australian walnut ply and the rug black and white. The sun-room is white with natural wood furniture and the steel column painted a pale blue.

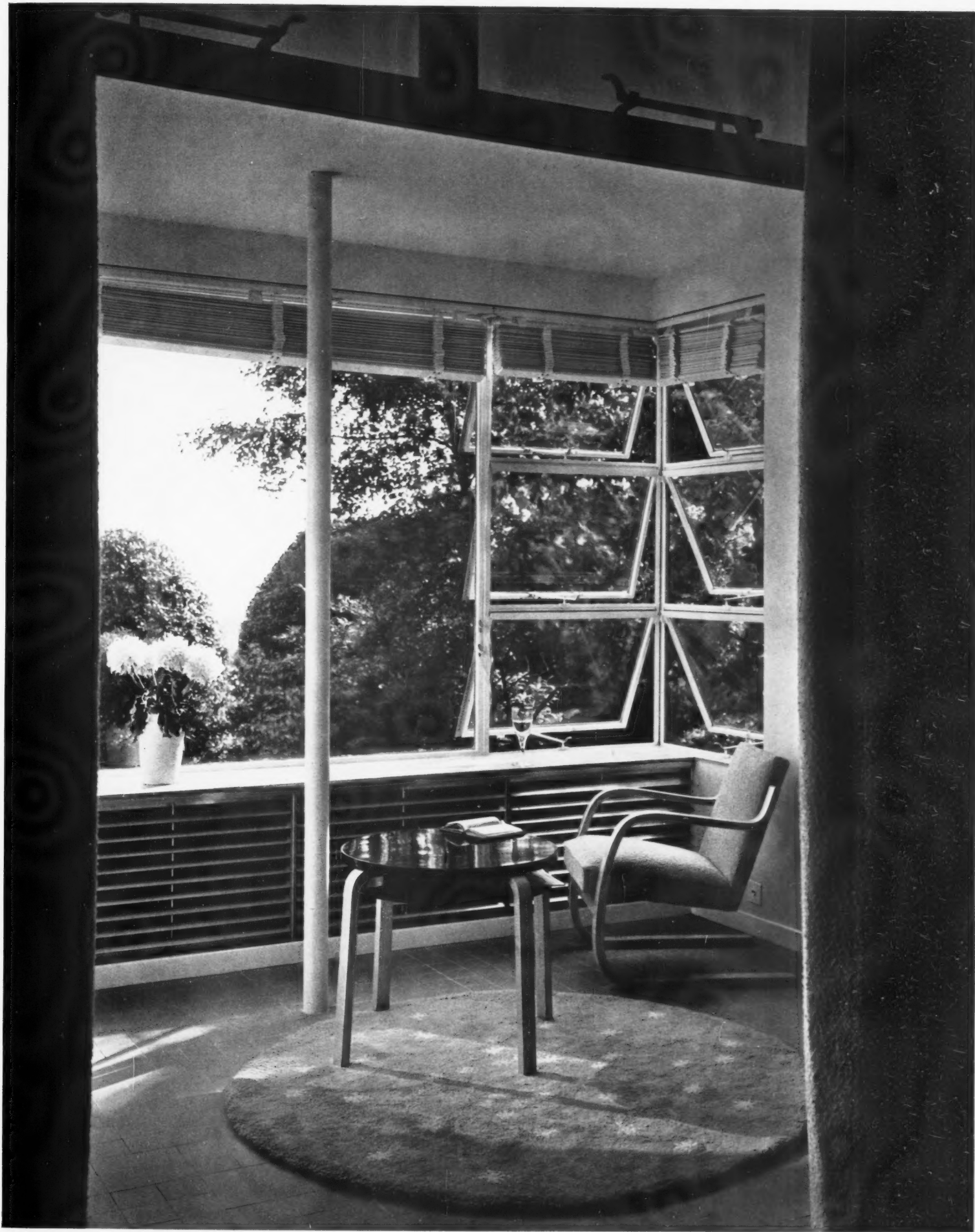


10



11

HOUSE IN A PARK



# A S U R R E Y H O U S E I N A P A R K



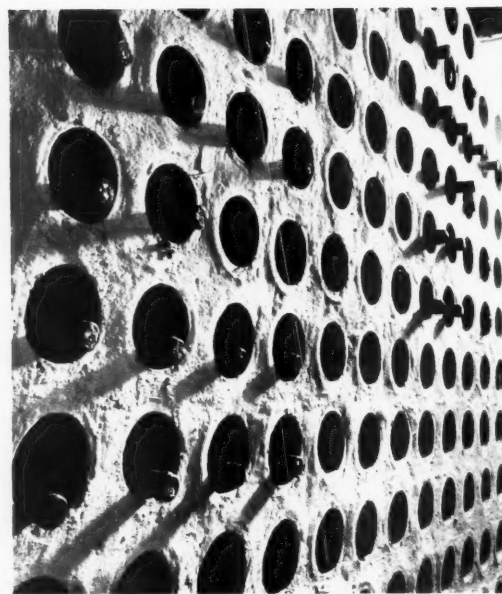
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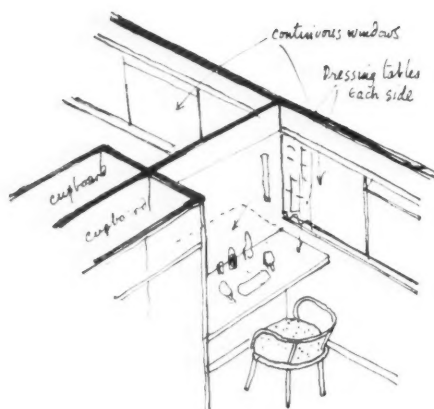
14



15



16

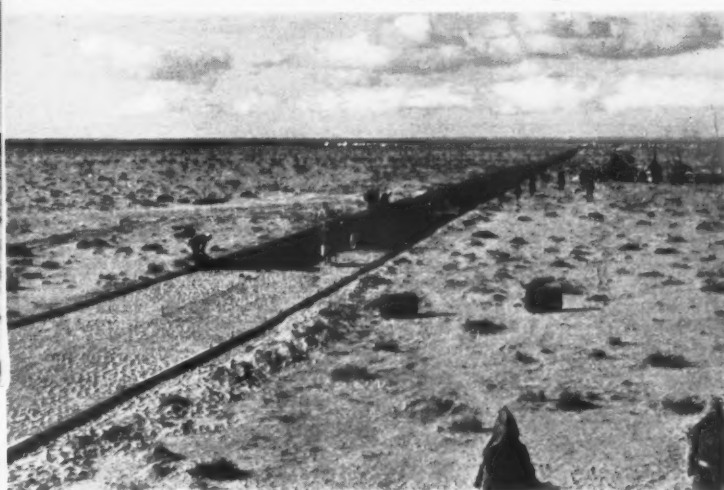


The dining-room, 13, has its walls covered with wood-veneer paper and furniture of pear wood. The chairs are upholstered in yellow hide. In the bedrooms above, of which one is shown in 14, an admirable partition has been standardized by the architect—see the sketch adjoining. The partition is actually formed by back-to-back built-in wardrobes, which stop short to provide a dressing-table recess. The narrow partition at this point does not prevent continuous windows along the façade, and at the same time the dressing-table is ideally illuminated. In the dressing room, 15, the glazed door is shown which gives on to a private balcony. 16 shows a characteristic piece of ingeniously simple detailing: a built-in wine bin in the cellar formed by embedding ordinary agricultural drain-pipes in mass cement.





The making of the Cairo-Alexandria desert road. Left: clearing obstructions for a new stretch. Below: a stretch ready for interim traffic.



# The Desert Highway

By Edgar Meredith

THE Romans are the first of road engineers. The Imperial art is theirs, the method for building to endure. Their solidly based blocks of stone, as resistant and true-set as may be, give a structure that resists erosion in Pyramid fashion. Between Antioch of the Sanjak and Aleppo, for example, a half-mile causeway of those blocks, as clean and rectangular as when cut, startles your eye to-day.

It isn't till one pauses to think that one gets rid of this imperious cant, the legend of endurance. Only that startling half-mile remains, that fragment of the spectacular approach to the temple-city. The course of the rest you may trace with your eye for a few more miles across the herbage, but only because the earth has kept it safely buried. Like the monumental waste of the Pyramids, it is lack of use that allows the Greco-Roman remains to survive. While horsemen continue to ride upon it, the road declines into a grassy way, and sinks into the sod, with the aid of the earthquake or without it.

It needs a Roman army, legions of slaves, to maintain a slave-built Roman road for Roman chariots. Right to the fringes of the sand-desert, and to the frontiers of the desert of savagery, ran their costly Imperial roads. Using all the colonial arts, all the expedients of foreign legion enlistment, they strengthened their frontiers against the threatening savagery: for a while, at a cost.

Macadam and Telford taught the better and universal way; so we are assured. On a slenderer foundation you must compact the angular granite fragments. You dress and renew the surface only, and if granite is not within cartage-reach, use the hardest sharp-fracturing substitute.

Architectural truth: so far. When in England the Roman ways had splintered for want of repair, Macadam brought Englishmen back from pack-saddle traffic, or from the six-horse-and-footman's-ropes and coach-in-the-mire style of travelling. He gave us the easy use of wheels between town and town. Read Defoe to know what the furlong-wide quagmire roads could be like on English downs in Queen Anne's days.

It is not so very far that Macadam and Telford truth extends though; to the bounds of a granite-civilization only. They gave us, in these islands, the use of wheels. At a cost, as the Road Board knows.

It is now time for us to amend their practice, surely? Although romanizing Mussolini seems to be slaving for romanized macadam in subdued Lybia to-day.

For Roman purposes even, the roads faltered and stopped at dead-ends. They ended where the desert began: perforce. A sandstorm obliterates in a day and a night the road masonry piled by years of labour. The defile-cut, engineered with such pains, fills with rubble, or with still more obstructive dust, as the result of a single cloud-burst. For all their skill in arms, the Hittite, the Pharaonic and Roman Empires, with all the rest, were still hemmed in, fretted by the incursions of the desert raiders, century by century.

The Mediterranean shores of Africa were once a granary. "Smiling with vine and olive" isn't merely

a metaphor. But not all the skill and discipline of the Roman cavalry, not all the reasoned art of the road-makers could hold that frontier. Soon the desert horsemen had to be bribed into quiescence, or bribed into quasi- or full enlistment. Then, with the inevitable reversion, their hordes swept Roman valour into the sea, and the coast reverted to featureless waste. The looting of the raiders hardened into a scheme of life, a national system, enduring through fifteen hundred years of Moslem blackmail. Palestine and Syria are still vexed by the ripples of that recurrent tide of brigandage.

To-day the web of roads is wider stretched than most people can imagine, and the need for the new roads which bring life, and bring it more abundantly, instead of mere slave-capture for a wider oppression, is all the more urgent.

To give one example of traffic extension: Arab buses now run throughout Syria and Palestine. You will see the words "*Beirut à Damas et Palmyre*" on the regular line which crosses Lebanon and Anti-Lebanon, where ten years back loaded asses needed escort on brigand-beset mule-paths. A mere fifteen pounds will hire a native chauffeur, at Syrian Tripoli, to launch a new car through Irak and Persia. He will hire a companion, feed the two, and return at his own cost. That car is certain to be laden with petrol for Central Asia, and this is a persistent and regular traffic. What all those lands need is more and still cheaper roads: for simple policing, not for marching armies.

Twenty per cent. of the world's land-surface, the calculators tell us, is hardly-scratched desert, or revoltingly arid: not reckoning the ice-wastes of the polar regions. The age-long tolerance of the dust-heap grows intolerable. And much of that desert is man-made. Safe passage across the sea of desolation is the first essential for the slow work of reclamation.

Egypt may serve as an example of this need: swarming Egypt, confined till a few years ago to a single fruitful valley, with but dirt-roads between village and village which Pharaoh would have disdained. To exist, Egyptian peasants need outlet.

The last of those long dirt-roads, by the way, cut through the desert from Cairo to Ismailia midway on the Canal, was built by forced labour driven by the lash of the "kourbash," alongside the Sweet Water Canal made by parallel methods, when the Suez Canal was in project. Within twenty years the road was bordered with cultivation and with the villages of the cultivators, as lush and close-set as on the Nile strip itself.

New roads, new outlets for Nile water are needed now to redeem the new population from semi-starvation and from the disease that poverty brings: disease that spreads beyond frontiers. The influenza plague encircles the world. It is born on the borders of the Mongolian desert, in the conditions that desert poverty breeds. Bubonic plague also. Other new diseases creep out of Egypt.

Egypt is one instance. Australia, much of southern Africa, of the United States, and of the Union of Soviet Republics, would serve as better instances. Theirs the greater need for roads, maybe. They have no river highway with an almost constant upstream wind. And how soon cultivated land can revert to desert, the recent lamentable soil-strippings in America's

Middle West have taught us. Areas as large as Britain may be denuded by wind in a few weeks, after only brief drought. And now California's orchards are sand-whelmed for many miles.

Thanks largely to one man of persistent inventive mind, of tireless reasoning, poor states may, and now do, make roads on new principles, across a sea of sterile sand. The twelve months old desert-road from the suburbs of Cairo to Alexandria keeps black and clear after sandstorms of Egyptian violence. That other strip of black liquorice, which now runs from the Suez Canal to the Mitla Pass of Central Sinai, is easy enough for pleasure excursions from Suez, as well as for camel and foot travel. Read Bagnold's *Libyan Sands* if you would learn what that patch of sand-slope meant in the way of obstacle, a few years ago, despite all the wire-mesh expedients of the war and Jarvis' adaptations of them.

The principles may be worth attention, perhaps? It costs nothing to learn from the new deviser, except the expense of abandoning prejudice.

First: there must be no costly engineering cuts, except in mountainous or rocky country where you need to wind to a col with bends and hair pins: *Vide* that Lebanon road. And these must be as few as architectural surveying, conforming to the architecture of the massif, will allow.

Secondly: No foundation, if and when the stuff will compact itself. And desert sand, taught the precise trick of compaction by milleniums of breeze and storm, is the best of self-locking foundations.

On the Malakal bottomless clay-marsh, cracking to foot-wide fissures in tropic sun, making an impassable glue-morass in tropic rain, you can still float a raft, a veritable raft of black stuff. Burn that selfsame clay to ballast, and you get the anchoring stuff, the crack-compacting material. The stone mass of Cheops' Pyramid would merely settle fathom-deep, and steel piles would sway in the mud-tides. You need a carpet, not a stone-block. At this moment they are extending that Malakal carpet to give an expanse that the speedier, more-devastating planes may find unstinted space upon.

"Eight native labourers. Brushing off rain. Sieving kilo-dust for filling the cracks . . . R.A.F. plane made two hundred metre depression. Filled . . . No plane delayed," writes the solitary Greek foreman this last winter. Before that raft came, the planes had to be seaplanes, and alight on the river. The projecting engineers reported that no drome could find foundation in that morass. "Well; abandon foundation," is the answer.

As to strip-of-carpet roads. Not to smoothe out your road longitudinally is repugnant to engineer sense, just as not to compact it with steam-rollers is contrary to all of Telford principles. But in sandy desert the smallest casual pebble will accumulate a half-cone of sand in its lee. The stronger the wind, the longer that lee-bar. If you make a cut for your road only one foot deep, that one-foot border will make a sand-bar to leeward, in a stiff breeze, right across the road. Head-on encounter with that bar, soft as it appears to the eye, will break a car's springs, or even its axle. So there must be not so much as an inch of projecting surface at the border of your desert road. Every cut will mean that you will have to keep sweepers in tents beside your tiny artificial defile.



1



2



3



4

1, levelling the bed, side to side only. The guide stones at the side are temporary. 2, machines in place. On the left, the tractor which has driven the mixer is hauling it to the next stretch. 3, spreading the mix. 4, trimming the edge and tamping.

The road must be an undulating carpet, in effect. The art of the surveyor is to make those undulations as gentle as may be. You subdue the sand-slopes by yielding to them.

Next, the winds that brought the sand must sweep the road clean. The surface must have a skin not easily abraded, an easily renewed two millimetres of polished cuticle, which will allow sand, and micro-dust, to blow off. Not even micro-dust must lodge, to be rolled in by traffic and mar the texture.

Then, no Roman chariot-wheels, no metal tyres, must be allowed to score it. One cartwheel will do more damage than anything but driving a car on the rim. The deviser of the desert road believes that it would

pay even the English road authorities, now, even for their roads which they gratuitously classify as "third-class," to make every carter a present of pneumatic wheels, rather than let him continue to cut up the roads they have to maintain. Camels, modern tanks and lorries are welcome on the new road. Camels have padded feet which automatically adjust themselves to a 15-18 pound pressure. Modern tanks have a continuous rolling surface to their non-scarring wheels.

A thousand lorries will not scrape such a groove as one flat-tyre rim will. But better watch the tyre pressure. "Roll on ample air," not on a circle of contact-points. "The reasonable tyre deforms itself, not the road." Nine-inch tyres at fourteen pound pressure will allow you to travel on open desert. The tricks of sand and gravel travel you may learn from Bagnold's *Libyan Sands*, or from the experienced. And what they find good for natural sand is good for polished roads, too; and for your passengers' comfort.

Last, and not least, of the principles: Use the material to hand, and the men at hand. Sand where sand is only too abundant, limestone where that is all too prevalent. Sand, of the right order, on an unknown depth of wind-sifted sand, compacts itself to an almost molecular firmness. It fits and beds down better than any other substance. Even the "liquid" quicksand which occurs in patches in the desert, where a lath will penetrate a dozen feet or more with no effort from your hand, even that will support the large air-tyre that rolls over it swiftly. You wouldn't choose that sand for your road-bed, you'd seek rather the sand that has a grain adapted for mathematical airless packing.

In the case of a road laid along the Suez Canal at the expense of the Canal, some subsidence under heavy military traffic was observed. What's the remedy? Lift the surface (use it again); cut out ten inches of clay which is the cause of the movement (clay rolls about under all the fluctuating pressures, the water-movements, even the nearby wash of the steamers) and replace it with compacting sand. Relay and varnish. Nothing but a sidelong gully-rush of storm water will shift that base of sand. But you will need "engineered" culverts to guard against it in the rush-spots.

Nothing, you observe, is to be hauled to the site, except the food and water for your men, the cunningly mixed bitumen and oil-flux, the tools, stores and tents, and the fuel. Cartage mounts up to much of your cost. (Consider what cartage from Guernsey or Aberdeen means for English road-metal.) Cut out all you may.

The ration of water for a workman is four gallons per day. Your sturdy Saidi labourer from Upper Egypt prefers five, and will buy a gallon from his skinnier dry-flesh Beduin colleague. All that weight has to be brought across blank desert. For 112 men two tons a day, for drinking water alone. In sand desert, roadmen and explorers don't wash in water.

That Cairo-Alexandria road was laid, by the way, 83 miles of it, across uninhabited waterless waste, in six months. Of this time, 45 days were days of sand-storm when all work was stopped, when men had to remain cowering in tents with their heads wrapped up against the suffocating dust. After each such interruption the tents and machines have to be dug clear, and the bearing of the mixers have to be scoured. In part the machines have to be taken down for a rigorous toilet of their moving parts. You can't adjust tarpaulin over them in a sand-gale. If you could, you'd only be barricading the finer stuff inside. The machines have to be designed so that dismantling is easy, and haulage is light.

The method of desert roads may be learnt from a cinematograph film of this road. In brief the items are: Survey the road with scrupulous care: not only with theodolite and level, but also by eye, rolling over the line of country again and again in a car. Note all the textures as well as the gradients. Then, scrape your road-bed level from side to side. A hand-job. Not much camber is needed in areas of small rainfall. Have your twin mixing-machines on either side. The tractors which hauled them there will drive them. The dose of "mix" for your five or six metres of road is calculated beforehand, and as soon as that amount is piled alongside in twin heaps the machines are moved by just that distance. That gives your sand-shovellers a brief breathing spell. Have I said that only pure roadside sand is shovelled into the elevators, and the factory-mixed bitumen and flux is melted down in its own barrels by the roadside? While the machines move on, the men distribute the mix to a rough guide-board accuracy of surface. Then the tampers follow in line, and tamp gently to a chanty from the headman. Immediately that stretch gets rolled. A steam-roller would be ludicrous

in the desert, even if any power would haul it to the spot. This is a roller made of a row of old car-wheels, with old pneumatic tyres pumped up to a forty-pound pressure, and loaded with sandbags. A light affair. To allow it to run across desert to another camp the sand is tipped overboard. The road is ready, and your own lorries use it forthwith; with their hundred-pound pressure tyres. This surprisingly mixed material needs traffic. Traffic compacts both it and the sand beneath. The more traffic the better: right away. The four-inch thickness of carpet, consolidates itself by use. In a fortnight or so the road has been deformed in some degree. Precisely the effect that was intended. Deformation implies settling down. While it is still at the right degree of non-rigidity, a scraper, with carefully adjusted knives, is dragged over it and turns it into precise and final shape. The one per cent, or so of stuff trimmed off goes back into use. When it is hardened by sun and wind and traffic to the precise degree, the road is painted with a fluid which fills every least skin-crack, which amalgamates, which gives the "stick of liquorice" burnish. Finally, put a curbing at the sides (flush: it must not project) to make sure the stuff doesn't get squeezed into roughness at the sand-edge boundary, or pushed off.

That surface is as hard now as mineral rock-asphalt. It is asphalt, now that the flux is gone; asphalt bound by and interspersed with sand. After three, or six years, as I have seen, it is an unadulterated stone-hard almost glossy strip, resistant as only asphalt-amalgam can be.

If any portion needs relaying owing to miscalculation, oversight or workmen's blundering, all that thickness of material can be used again. It's an architectural crime to waste it. Break it up and relay it with a little fresh 'cut-back' to bind.

Not the least of the triumphs, as I reckon, is the use of wild and Beduin labour, and the choice of the men to supervise and coax them. About one-sixth of that road-laying "mob" were Beduin from the Wadi Natrûn who had hardly done a useful hand's turn in their lives. Their recruiting boss was their own Sheikh. Those Wadi Natrûn Bedu were so under-nourished, so schooled in all that goes with the Bedu tradition, that a week's gratis feeding was needed before they could be trusted with rake, shovel or tamper.

These new roads cut through savagery and help to bound it, too, as well as bringing possibilities of reclamation for the desert.

On that "settling" and reclaiming effect, let me say one word. See the Sheik Tribunal at Beersheba and you see the new justice which brings peace. The new roads hardly need policing, still less a regiment. Camelmen prefer a road. The Bedu prefer safety for their barley-patches and their spring-grazing.

And the great Lydda aerodrome, alone of all the works in Palestine, was carried through last year, with work uninterrupted, all through the "Troubles." The workmen were Gaza Arabs in the main. Armoured cars weren't needed.

The alternative to roads in these regions is short-range camel and donkey traffic. The last long-distance caravan route in use in Africa was the slave route, before Gordon's time, which brought thousands yearly from Equatorial Africa to the Cairo market. The slave-track was the profitable track, because the man marches on his own feet and doesn't need transport as dead goods do.

Egyptian camel-men trudge or ride donkeys. They don't ride their beasts, except for pride and after market. At a rough estimate some 95 per cent. of Egypt's camels go from village to village merely, or a half-day's march to town, with fodder and market-stuff, on dirt roads impassable even to camels after rain. The camel-men prefer the magic black carpet.

The trader's beast is slower than the ass, as any circus procession will show. The trotting riding-camel is only used for milk, and raids. And on the finest only Lawrence could do an 80 mile day. Only a few years back the last raid was made across the Cairo-Suez road-site. Completion of the road wrote off that habit.

The credit for the execution of those roads is attributed to a Limited Liability Company, of course, after the modern fashion. But the ideas with much of the supervision, belong to one man, the English deviser. He prefers to hide his name behind the company, and to give the praise to the company of his assistants.

Roads or desert-habit, that is the choice, for the pacificator, as well as for Mussolini. But I am still wondering why, when Syria and Cyprus can get roads, London can only afford half-ration. Noisy and fusty at that.



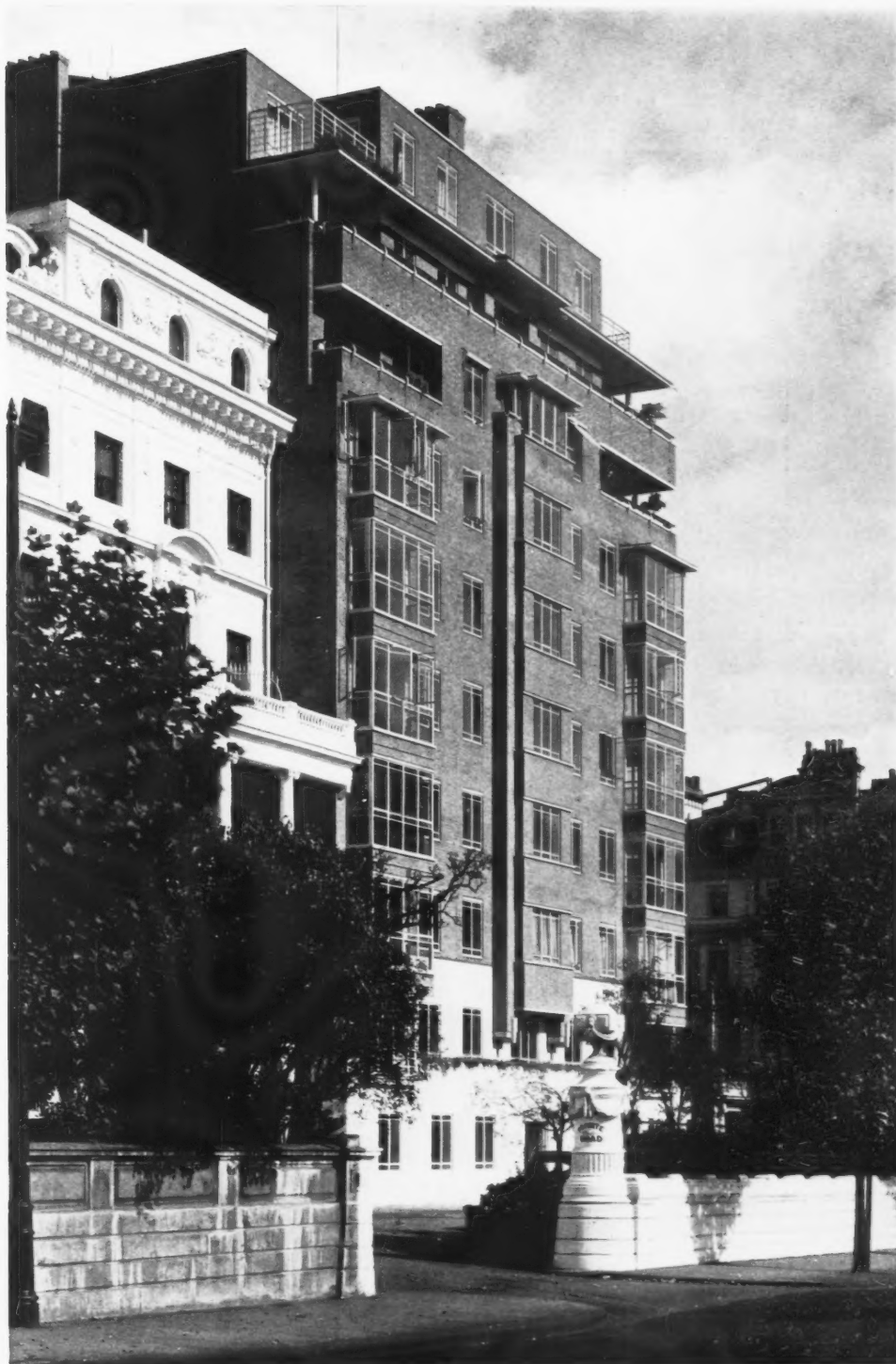
# CURRENT ARCHITECTURE

## I

HOWARD LEICESTER  
AND PARTNERS



1



2

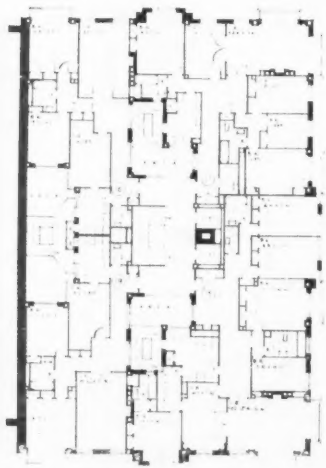
Barrie House is a new block of luxury flats at Lancaster Gate. 1, a general view and, 2, the elevation overlooking Hyde Park. The building is of steel frame construction: the external walls of 9 in brick backed with 2½ in. partition blocks. Floors are fire resisting in hollow tiles. The building is faced with plum-grey facing bricks and the piers at the side of the central features on each elevation have been carried out in brown facing brick. Artificial Portland stone has been used up to the 2nd floor level. The internal partitions are generally 3 in. hollow terra-cotta, but between flats, two 3 in. walls were erected with acoustic quilt or glass silk between. The joinery in the public spaces is in

Australian walnut and the floors are close carpeted up to the 1st floor level. Heating is by a low-pressure hot-water system with radiator distribution, and ample coil radiation has been provided under the bay windows, cased in hardwood with gratings in B.M.A. mesh. The windows have been purpose made to the design of the architects and are held in open position by means of bronze friction pivots. The clients required flats of somewhat varying accommodation: the smallest consisting of two bedrooms and two reception rooms, the largest of six bedrooms and three reception rooms. They also asked that there should be at least one bathroom to every two bedrooms. There should also be, as far as possible,



# C U R R E N T A R C H - I

HOWARD LEICESTER  
AND PARTNERS



TYPICAL FLOOR PLAN



GROUND FLOOR PLAN



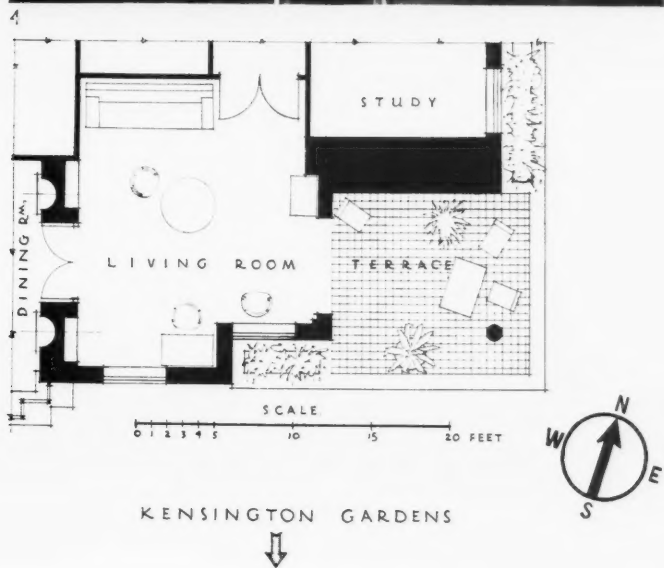
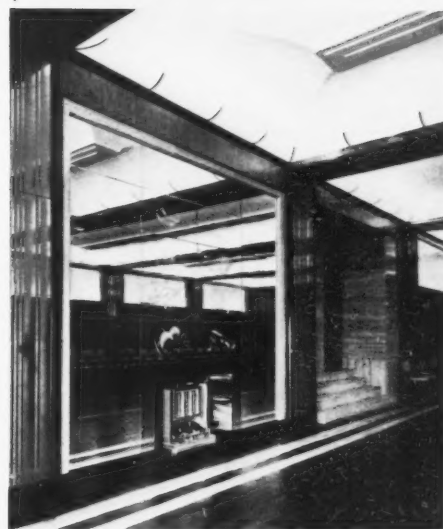
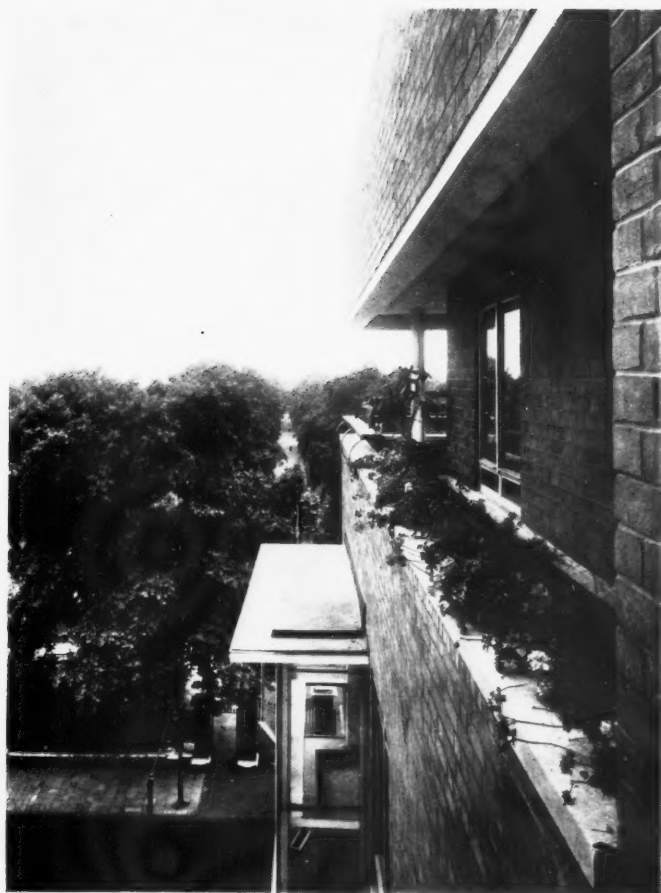
3

incorporated in the plans, terraces commanding a view of the Park and windows giving complete views to the south and a maximum of light throughout the building. Terraces, 3, have accordingly been incorporated at 7th, 8th and 9th floors and are linked up by permanent flower boxes and troughs, 4. The railings are formed with a top member of teak 8 in. by 2 in. and the rail is secured by stout wrought-iron hoops built into the parapet. The building comprises thirty-seven flats; typical floors each contain four flats. There are no corridors, the link between the entrance hall and the living-room being made by means of

a gallery which is sufficiently large to be furnished. Four maids' rooms are provided on the ground floor with access from both the public hall and the trades entrance. Bathrooms and cloakrooms are in many cases planned internally and have mechanical ventilation. The system of plumbing is a one-pipe welded copper tube system and large ducts have of necessity been provided for plumbing and services. Service to the flats is obtained by means of electric service hoists which are reached from the service yard at the rear. Service and escape staircases are also provided to each flat.

## 2

CAIRNS AND FORD



Additions have been made to Messrs. Macvitties, Guest & Co.'s store in Edinburgh (photographs on the right) to form this new suite of reception rooms and restaurants. A specially interesting feature is the lighting installation. The average spacing of ordinary gas filled bulbs is three feet and throughout the building current consumption is considerably lower than would normally be necessary. With this wide spacing there is saving in maintenance and lamp renewal costs. In the Reception Room, 2, the ceiling is divided into a series of bays to provide a good background for decorative lighting. Each bay is

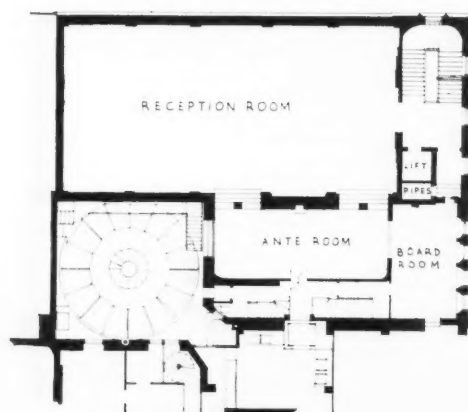
surrounded on all sides by cornice lighting. Windows admitting daylight are provided on one side of the room only. In the reception room main wall panelling is of makore with Macassar ebony base. Pilasters and surround to windows are of bird's eye maple with frames to mirrored pilasters and beams of solid Indian laurel: surround to bandstand mirror of teak swirl with green sycamore lines. The floor is of Canadian birnut with border of Canadian red cherry birch: steps and surround of openings to lounge of Imperial Travertine marble, 1. Pilasters and beams are of champagne plateglass silvered and with shaded sand-blast

# CURRENT 2

CAIRNS AND FORD



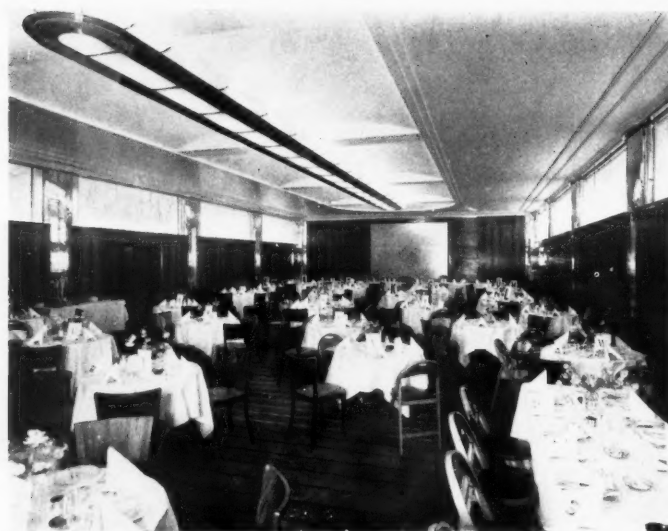
SECOND  
FLOOR PLAN



FIRST  
FLOOR PLAN



GROUND  
FLOOR PLAN



3



4

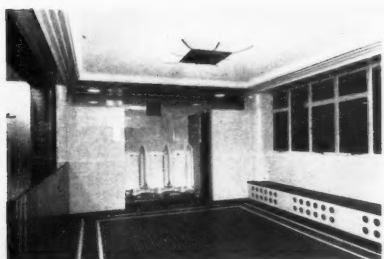
fluting. In the Restaurant, 3, the illumination is from a central beam running the whole length of the room with a coffered ceiling above. One lamp every three feet installed in the metal trough provides even indirect lighting, while bulbs at the same spacing add the necessary sparkle to the scheme by direct illumination through the glass soffit. This central beam also provides concealment for the ventilation system. Main wall panelling is of peroba with base of angelique and prima vera: floor of Canadian red cherry birch with border of Canadian birnut: pilasters of champagne opaque mirror glass with returns to

inner windows of bent stippled silvered plate-glass. The inner windows are as in reception room: the panel on the end wall is of silvered blue plateglass with satin finish face and gilt sand-blast design: the metalwork is of silver bronze. In the gentlemen's lavatory, 4, 5 & 6, doors and counter front, etc., are of zebrano. Walls are of green vitrolite with pearl grey bands: metalwork of brass chromium plated. A special reflector is mounted in the top of the central coat rack. From this point only, reflected light from the coved ceiling evenly illuminates the whole of the lavatory and W.C.'s. Portholes in the soffit over





5



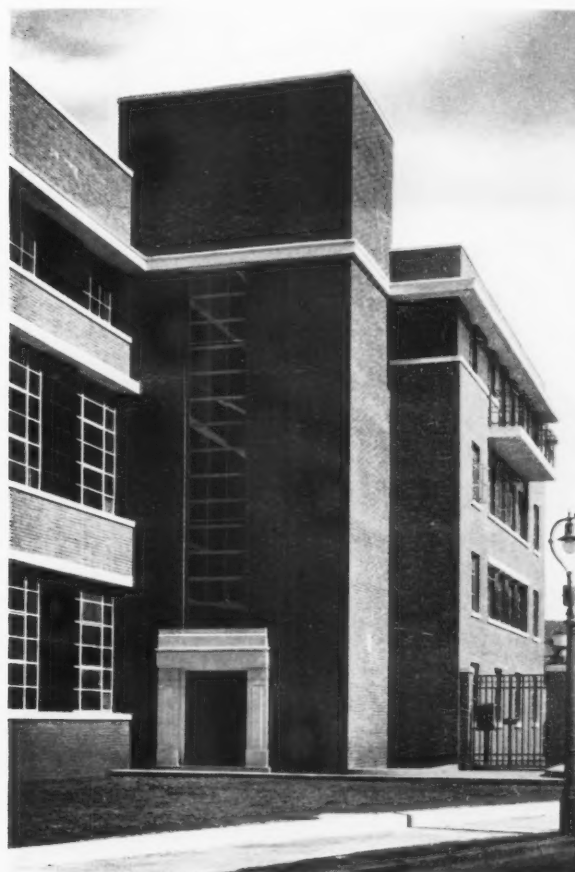
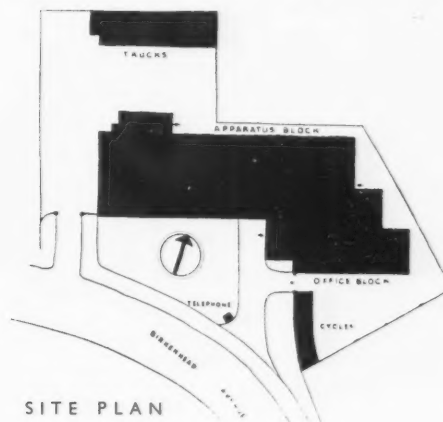
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7

## 3

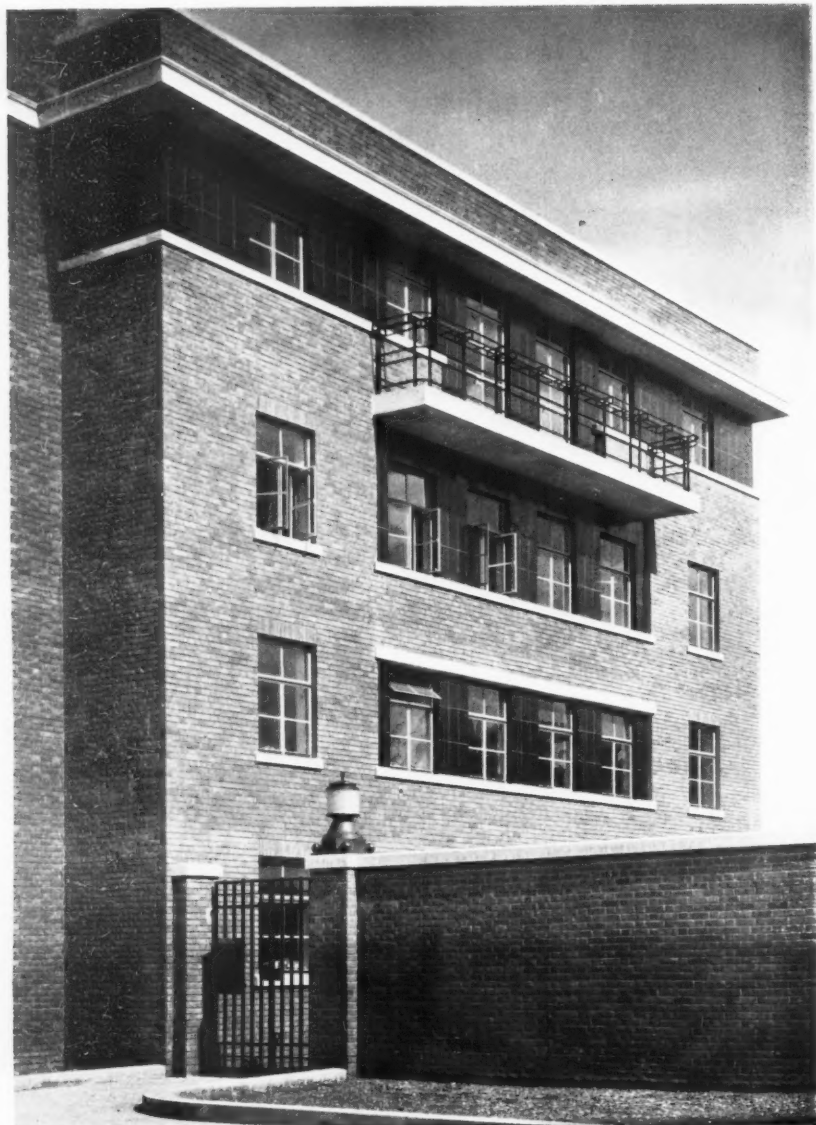
JOHN H. MARKHAM  
(H.M. OFFICE OF WORKS)



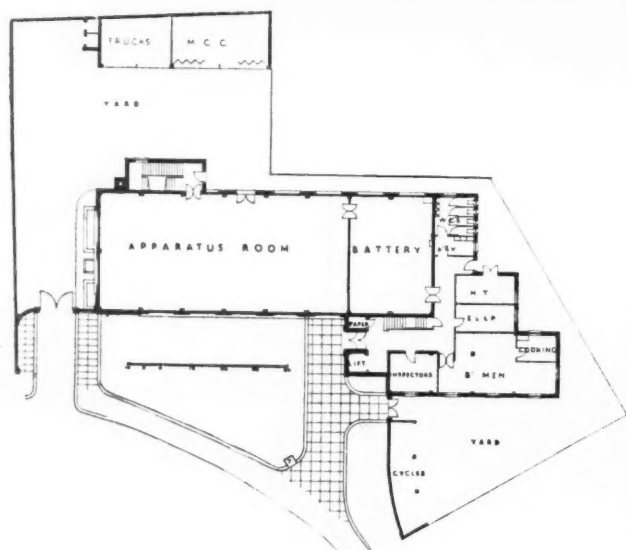
1

the washbasins provide a good lighting for the mirrors. In the ladies' rooms, 7, cloakroom doors, radiator cover and counter front are of Arbele. Walls are painted green: floor of mirror tiles. Dressing-room walls are of silvered plateglass with plateglass pilasters: screen to lavatory of plateglass with shaded sand-blast design: ceiling of stippled silvered plateglass and floor of opaque glass and mirror tiles. Lavatory doors are of Arbele, walls of pearl-grey opaque glass and floor of opaque glass tiles. Metalwork throughout these apartments is brass chromium plated.

The telephone exchange at Kingston has been designed, as every telephone exchange has to be, to meet, in the most economical and effective way, the requirements of the Post Office Engineers. It houses a highly specialized engineering plant. The illustration of the entrance and staircase tower, I, indicates the materials used in the exterior: brick walls with stone dressings; metal windows and balcony; and asphalt roof. The elevational treatment was largely governed by the necessity for large windows. One of the difficulties which had to be contended with was the unavoidable difference in height between



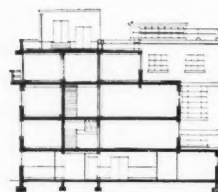
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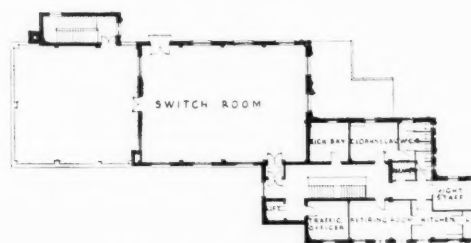
GROUND FLOOR PLAN

3

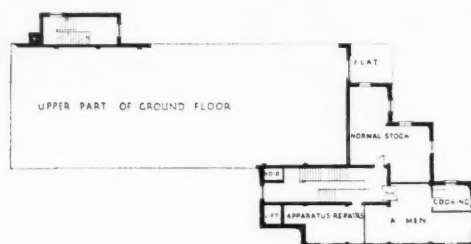
JOHN H. MARKHAM  
(H.M. OFFICE OF WORKS)



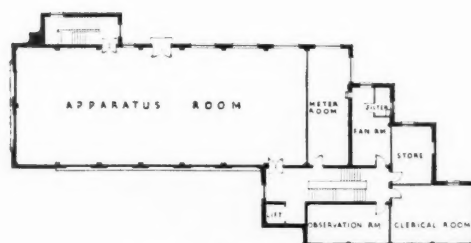
SECTION



SECOND FLOOR PLAN



MEZZANINE FLOOR PLAN

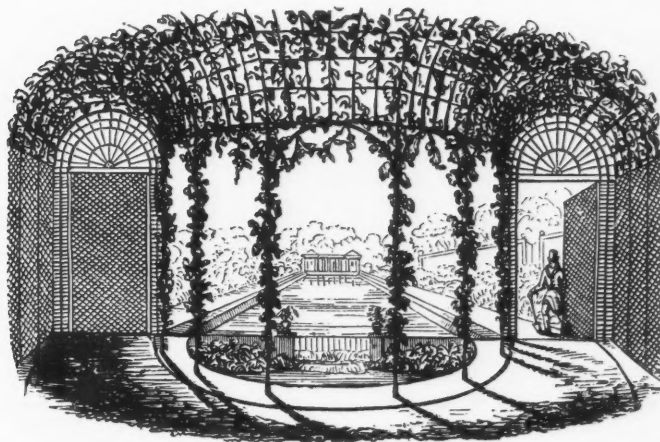


FIRST FLOOR PLAN

the apparatus rooms and the few rooms allotted to offices and staff requirements. This accounts for the two parts of the building, united by the entrance and staircase tower, which is of somewhat different scale as regards fenestration. 2, is a view showing the south side of the office block.

# PICTURES VERSUS PROSPECTS

## The Evolution of The Nineteenth Century Garden



By Christopher Tunnard

**P**ICTURESQUE gardening, the art of Kent and Shenstone in imitation of Italian scenes, continued to be practised until the end of the century and thereafter ceased to exist. A strenuous battle was fought over its expiring body . . . the struggle between its devotees and those of the naturalist school. At the time, through a confusion of ideas, the devotees of the picturesque were termed the followers of nature and the nature-lovers were known as utilitarians. Of the former, Uvedale Price, country gentleman and amateur gardener, was a fierce warrior in the cause, and, although evincing throughout his writings a love like Rousseau's for "a simple thorn-bush, a hedge, a barn, or a meadow" (Price is accredited with having made a successful imitation of a bye-lane), he was discriminating and sure in his choice of material and possessed a fine imagination. John Payne Knight, who cudgelled by his side, was an "arbiter of taste" and possessed a renowned collection of pictures, which included a selection of Claudes and no doubt influenced him in his choice of sides. Though a fierce and at times unfair critic of Repton, who

had taken the place occupied by Brown in public demand on the latter's death, Knight, by the violence of his writing secured a recognition of the damage that was being done to 16th and 17th century gardens by the ruthless destruction of the landscapists and succeeded in gaining a general re-acceptance near the house of the formal flower garden which had disappeared for nearly a century. This was to everyone concerned so obviously a necessary reform that even Repton was laying out formal gardens before the end of his career.

Of Repton, the chief but always urbane opponent of Price and Knight, there is little to be said that is not already well known. He is still the idol of landscape architects, mainly because he was careful to leave behind him explanations of a simple and adaptable technique and descriptions of easily reconstructed effects, together with ingenious paper slides showing rural scenes before and after "improvement." He was eminently fitted to take on Brown's mantle, and succeeded in obtaining almost as many commissions as his predecessor with only a tittle of that self-confident gentleman's personal popularity. That

he was not acclaimed with the enthusiasm accorded to the latter was due to the efforts of his learned opponents who arrived in the field too late to challenge the theories of Brown during his lifetime (though the angry Knight was not above apostrophizing him dead) and succeeded in creating a critical public which took upon itself to analyse and amend designs in a manner hitherto unknown.

Repton, though deploring the practice of picturesque methods in gardens, was yet content to crown his hillocks with temples and scoop out Claudian amphitheatres in the approved picturesque style. It is perhaps unfortunate that he was committed to vague theories of utility and natural beauty, while possessing enough artistic talent to have achieved much more had he been unfettered by them. Peacock sums up the man and his work in the following good-natured caricature taken from his novel "Headlong Hall." Repton, in the character of Mr. Milestone, has just described to his host the carving of the figure of a giant from a piece of solid rock.

Squire Headlong: Miraculous, by Mahomet!

Mr. Milestone: This is the summit of a hill, covered, as you perceive, with wood, and with those mossy stones scattered at random under the trees.

Miss Tenorina: What a delightful spot to read in, on a summer's day! The air must be so pure, and the wind must sound so divinely in the tops of those old pines!

Mr. Milestone: Bad taste, Miss Tenorina. Bad taste, I assure you. Here is the spot improved. The trees are cut down; the stones are cleared away; this is an octagonal pavilion, exactly on the centre of the summit; and there you see Lord Littlebrain, on the top of the pavilion, enjoying the prospect with a telescope.

Squire Headlong: Glorious, egad! . . . You shall cut me a giant before you go.

Mr. Milestone: Good. I'll order down my little corps of pioneers.

This doughty band apparently having been summoned, "the Squire and Mr. Milestone . . . set out immediately after breakfast to examine the capabilities of the scenery. The object that most attracted Mr. Milestone's admiration was a ruined tower on a projecting point of rock, almost totally overgrown with ivy. This ivy, Mr. Milestone observed, required trimming and clearing in various

For this miniature gallery of Landscape Gardeners a fitting commentary is found in verses from William Mason's "English Garden" and from his "Heroic Epistle to Sir William Chambers. From left to right: Lancelot (Capability) Brown; William Kent; Shenstone; Chambers and Repton;



Bards yet unborn  
Shall pay to BROWNS that  
tribute, filliest paid  
In strains, the beauty of  
his scenes inspire.

BROWN



KENT, who felt  
The pencil's power: but  
fir'd by higher forms  
Of beauty, than the pencil  
knew to paint,  
Work'd with the living  
hues that Nature lent,  
And realiz'd his land-  
scapes

KENT



Nor SHENSTONE  
thou Shalt pass  
without thy need,  
thou son of peace!  
Who knew'st, per-  
chance, to harmon-  
ize thy shades  
Still softer than thy  
song;

SHENSTONE



Knight of the Polar Star!  
by Fortune plac'd  
To shine the Cynosure of  
British taste;  
Whose orb collects in one  
refulgent view,  
The scatter'd glories of  
Chinese Virtue;

CHAMBERS



REPTON, who came  
too late to be immor-  
talized by Mason, but  
he is portrayed in the  
character of Mr.  
Milestone in Peacock's  
"Headlong Hall."

REPTON



## PICTURES VERSUS PROSPECTS

parts; a little pointing and polishing was also necessary for the dilapidated walls; and the whole effect would be materially increased by a plantation of spruce fir, interspersed with cypresses and juniper, the present rugged and broken ascent from the land-side being first converted into a beautiful slope, which might be easily effected by blowing up a part of the rock with gunpowder, laying on a quantity of fine mould, and covering the whole with an elegant stratum of turf."

Unfortunately for an unseen occupant of the tower, this gunpowder plot turned out to be an only too-emphatic success.

In the years 1794-6, the three participants published their manifestos, of which Repton's "Sketches and Hints on Landscape Gardening" is today the most widely read. Lesser lights, like William Marshall, author of "A Review of the Landscape," 1795, immediately took sides and the war waged long and fierce. The argument was always the same and revolved around Shenstone's already quoted dictum that gardening should follow painting, and it provokes a smile to read today that at that fateful time of artistic indecision, landscape gardening was solemnly declared by critics in high authority to be "as superior to landscape painting as reality to a representation."\*

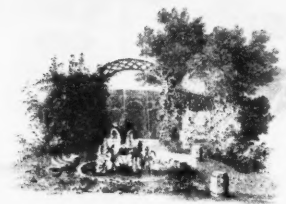
The issue of the contest took some time to emerge, but at the beginning of the 19th century we are fairly safe in saying that picturesque gardening in the old form had in practice disappeared.

It was not an unqualified victory for the "natural utilitarians." Knight, as we know, won his point in the restitution of the formal garden, helped by the warnings of great Romantics like Cowper, Wordsworth and Sir Walter Scott, who deplored the havoc wrought on the national heritage by the Improvers. By the 1840's, under the influence of Nesfield, Sir Charles Barry and Paxton, (†) the wheel of taste had so far revolved as to favour the creation of knot gardens, mounts and straight-lined walks. That it was thought necessary to go back to mediaeval gardens for inspiration at this time is a fact of some significance in the light of the phenomenon of Pre-Raphaelitism which burst upon the astonished English public a few years later.

But, in spite of this copyist architecturalism and its growing popularity, "landscape gardening," divorced from picturesque ideals, lacking any organized principles and requiring few qualifications in its practitioners beyond a vague "appreciation of natural beauties" and a few practical abilities, had definitely come to stay.

There were several reasons for its popularity. Chief among them we must count a certain national laziness

\* Whately, "Obs. on Modern Gardening," 1801.  
(†) See p. 184 "The Picturesque," C. Hussey, Putnam, 1927.



*This fountain in the garden at Whiteknights was designed by Lady Diana Beauclerc. In the words of Mrs. Hosland's book on Whiteknights, from which this engraving is taken, it "affords a fine specimen of the taste that lady so eminently possessed."*

in matters of art, an inability or disinclination to probe beneath the surface or to hark back to origins, which may have made Knight's exposition of his theory of the picturesque a difficult piece to construe. As has been pointed out, there was, too, the growing feeling for nature fostered by Rousseau and the earlier writers of the Romantic Movement, the force of which was so strong as to compel artists to accept the "thou shalt have none other gods but me" attitude which an admission of its principles implied. Also, the effects of the Industrial Revolution were beginning to make themselves felt. (\*) They enabled Cowper to observe, rather sententiously, that "God made the country, and man made the town." Eighteenth century expansion has raised hideous blotches on the landscape, and to avoid the sight of factory chimneys it was necessary to seek the mountain fastnesses of Wales or Scotland. Thus wild scenery came to be regarded as the finest form of landscape, and men could listen to Ruskin saying in all seriousness that "there may be proved to be indeed an increase of the absolute beauty of all scenery in exact proportion to its mountainous character," and with him be ready to give away the whole view from Richmond Hill "for one mossy stone a foot broad, and two leaves of ladyfern," a remark which many of our present-day rock-garden enthusiasts would heartily endorse.

The world of make-believe in which men like Pugin and Ruskin buried themselves was not conducive to artistic progress. Painting and sculpture became frankly representational, and the Royal Academy, which had given art a certain cachet with fashionable society, was each year crowded with a public eager to acclaim the subject which in approximation to life seemed readiest to step out from its frame. Gardening at this time fared rather differently. As an art it was moribund, but its scientific side was rapidly being developed. Every Victorian gentleman who could afford one possessed a greenhouse in which he cultivated the newest importation from the West Indies and Borneo, where intrepid collectors were denuding whole forests of orchids to satisfy the latest European craze. They were [Continued on page 207]

(\*) For an account of the development of the English landscape with particular reference to economics, by "The English Tradition in the Countryside," see W. A. Eden, THE ARCHITECTURAL REVIEW, 1935.

*These plans from Loudon's "Country Residences," illustrate various treatments of a hypothetical site. The first is the site and the second is its transformation into a garden "in the style prevalent about a century ago." The third is in "Mr. Brown's style—generally prevalent at the present day, 1800." Finally, there is shown the same site laid out "in the style of the author, J. Loudon."*

This period introduces the practice of planting trees singly, instead of in clumps. 1, a typical example, with which are combined the interlacing gravel paths characteristic of the period. 2, the Long Walk.



Comparative plans of the grounds before and after "improvement" by William Wells. In the lower plan the river has been widened, a lake formed, and a walk made round the estate. Plantations of trees along the road and drive prevent the view being seen on the approach to the house. The outcrops of sandstone to the north in full view of the house are a key to the character of the estate, which is extremely broken and varied.



## THE ROMANTIC GARDEN IN THE NINETEENTH CENTURY REDLEAF, PENSHURST

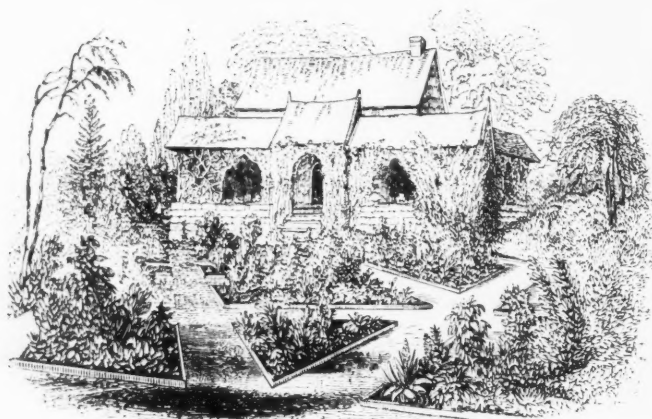
Redleaf was laid out in the first quarter of the 19th century by William Wells, amateur artist and Fellow of the Horticultural Society. According to Loudon, "Mr. Wells' operations on the park and scenery at Redleaf were . . . comparatively few, and not such as in any degree tended to alter the character of the place. He widened the river in one situation, and altered its direction in another, in order that it might be better seen from the windows of the house; he removed hedge rows and laid down arable land in pasture, so as to give extent and unity to the park or lawn; he added to or diminished the masses of wood for the same purpose; and he formed a walk so as to enable a stranger to make a general circuit of the place." (*The Gardeners' Magazine*, July, 1839.)

All this Mr. Wells carried out very skilfully in the traditional manner, but it is not particularly for his landscaping effects that





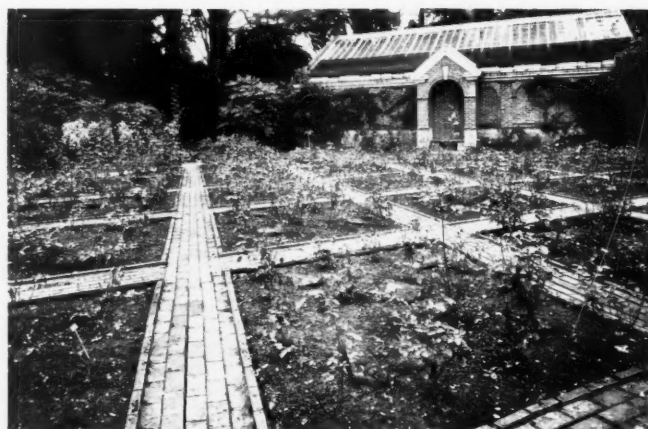
View across the Rocky Linn, showing the Descent of the Rock Walk to the Rocky House.



Rustic Billiards Room in the Dutch Garden.



3



4

3, 4 and 5 are recent photographs, beside each of which is reproduced the corresponding drawing from the July, 1839, issue of "The Gardeners' Magazine" in which the garden was described. 3, the Rock Garden, one of the first examples of the "natural" type of rock garden. 4, the Rustic Billiards Room in the Dutch Garden, with its modern counterpart in the form of a squash rackets court. 5, the English Garden. The tree to the right centre of the sketch is a specimen of *Cunninghamia linensis*, still existing. The *Chamaecyparis* palm on the extreme right appears to be shorn in the sketch of 1839, though the best authorities maintain that this variety was not tried in the open air in England until ten years later. The floor of the summer house is of irregular oak chunks, the walls are inlaid with varnished woods, and the roof covered with bark cut in the shape of tiles. 6, Landseer's seat, from which there is a prospect of the lake. 7, a terra cotta basin on the main walk round the estate.



6

he is accorded a place in our gardening chronicle. Loudon observes :

"Now the great merit of Mr. Wells as an amateur artist is, that, while he has heightened and improved the natural beauties of Redleaf, he has been constantly employed for the last thirty years in creating artificial beauties there, which do not, in the slightest degree, interfere with the great leading natural features of the place. There are very few other proprietors who would not, while improving such a place as Redleaf, have done violence to the natural character of the place, by the evident intrusion of art. . . . The garden scenery at Redleaf consists of a kitchen-garden, an orchard, an English flower-garden, a Dutch flower-

garden, and an anomalous description of flower-garden, which may be called the rock-garden. This last garden constitutes by far the most singular feature of the place, and is totally different from anything else of the kind in England. The idea of forming it seems to have arisen from the existence of a ledge of rocks in another part of the grounds, and from the abundance of rock, of a kind easily quarried (red sandstone), under most parts of the surface. . . . The suitability of the stone walk to this rocky garden is worthy of notice—the walk is formed by flat laminæ of the sandstone . . . joined together in the most irregular forms, like the lava pavements in Portici."

From the above, and from the illustrations, it will be seen





5



7



English garden and various buildings

that Mr. Wells, hovering in the background of nineteenth-century garden art, played a most important part in the development of the rock-garden, of crazy paving, and of rustic work, in fact it is possible that he actually originated one or other of these forms. In these doubtful introductions it would seem that he had a lot to answer for; but in fact his use of them differed from that of the present time. His rock garden was indigenous, and not a Kentish pile of Westmorland stone, nor was his rocky walk degraded into serving as a terrace for the house as is so often the case to-day. His rustic buildings were certainly bizarre, but still in the picturesque tradition—a rustic Chinese dairy, Billiards Room and Orangery in propinquity to the Dutch

Garden may be accepted as *jeux d'esprit*. As Loudon says, "the making of the rustic buildings formed a source of amusement to him which was greatly heightened by the adaptation of the crooked branches and roots of trees to the architectural forms proposed." Examples of this craft nowadays are a lamentable travesty of the formal precision and elaborate detail of the remaining structures at Redleaf.

For the Victorians, the little gardens strung on the girdle of the path which encircled the estate were of small importance beside those parts of the grounds planned in imitation of natural scenes. Here Mitford and Loudon praised the clever transition from terrace to view, and here the romantic Landseer painted in



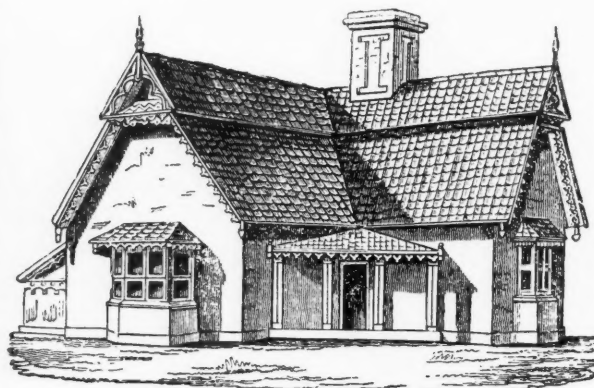
8



*Elevation of a Cyclopean Cottage designed for the Residence of an under Gardener.*



9



*Elevation of Penshurst Lodge.*

8 and 9 illustrate the increasing influence of the romantic garden on the architecture of the early nineteenth century. Again the present-day photographs are compared with the sketches of 1839. On the chimney of Penshurst Lodge, 9, is the date 1825. The Cottage, 8, with Cyclopean stonework in its lower storey, is probably slightly later, but it must be one of the first known examples of authentic half-timbering in the revived Elizabethan style. 10, one of Wells's rustic buildings on the lake peninsula.

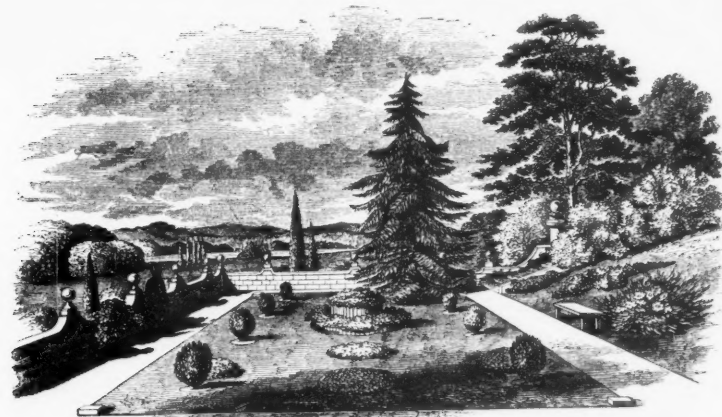
a rocky glen. Here, too, Douglas, the great explorer, seeing a fine specimen of the creeping juniper, uttered an exclamation of delight, and flung himself down upon it, explaining to his astonished host that he had often spent a night on such a bed, alone in the wilds.

Those who have patience to follow the winding paths of Redleaf, now mossy and overhung with arching evergreens, will notice the wealth of new evergreen trees which gave the later landscapists more opportunities for composition than the earlier practitioners of the art. The Cunninghamia, the Redwood, the Wellingtonia, the Himalayan Fir, the Lawson Cypress, and many others of the coniferous tribe to be found in this garden were unknown to gardeners of the eighteenth century. At Redleaf, these superb trees in close plantations impart to the walks that air of solemn grandeur which Pope loved, and Chambers longed for and failed to achieve.



10





Alternative treatments of a sloping site: the "Natural" and the Terrace. From Hughe's "Garden Architecture."

raised beds in the lawn, where the geranium and calceolaria remained supreme for the summer months of half a century.

The unfortunate duality of temperament with which the Victorian garden was endowed was not an aid to its establishment as an artistic entity. Until this moment there had been no middle course to steer in garden planning—the pre-landscape garden had called for regularity, the landscape garden for irregularity—now there had to be a compromise. The exalted Victorian mind had not yet learned to compromise; in consequence it botched.

And what a glorious, gaudy botch it made! It will be remembered that Victorian garden-makers were the first to encounter the problem of the villa or suburban plot, admittedly a difficult case even today when the "formal-informal" combination in garden design is accredited with operating so successfully. But in those days the increase in the number of suburban residences with grounds of  $\frac{1}{2}$  acre to 2 acres simply meant that the landscape garden was represented by a shrubbery and the architectural garden by a "pattern." A Cedar of Lebanon, a clump of plumous Pampas Grass and some pieces of rockwork were used to make a miniature landscape on the front lawn with a crescent moon and stars carved out of the turf for bedding at the back. The grotesque indecency of either act would not have been admitted, then . . . it was impossible to make a travesty of nature now that she was a servant, to be bullied with impunity. Amateurs were in fact recommended to arrange their beds by "selecting some part of a pattern of a carpet or wallpaper, or by placing a few bits of coloured paper in the debuscope and then copying the multiple scheme so produced." In this garden for three months in the summer could be seen the result of their rich taste in colour among the half-hardy subjects coaxed from the shelter of the now-popular small greenhouse.

Without doubt, richness was what the Victorians desired, and rich was the effect they achieved. Who cannot

respond warmly to the comfortable air of well-being emanating from the succulent leaves of the Echeveria or certain of the Sedums and Sem-pervivums, plants without whose generous presence the carpet bedding system could never have existed?



The increasing interest in flower cultivation as distinct from garden lay-out was an important influence in the development of the early nineteenth century garden. Above, a dahlia: "Brilliant"; from Hibberd's "Amateurs' Flower Garden."

As a contrast to the universal prevalence of showy summer flowers, the discovery of this method of leaf-embroidery must have come as a welcome change. In 1878 a writer described carpet bedding as "the latest novelty in flower garden embellishment," and foresaw its great future popularity. The system is still practised in all diligence by the authorities who rule over our public parks.

One would be loth to see these museum pieces disappear entirely and with them the curious plants whose employment in this form of gardening is an excuse for their continued cultivation.

But carpet bedding was not the crowning luxury of the Victorian display. There remained the sub-tropical garden, which for sheer industry and expense exceeded every known form of outdoor horticultural pursuit. An importation of the 70's

[continued from page 202] busy in more temperate climates, too, and their industry resulted in a wealth of new material for the formal gardens that were now re-appearing. At home, hybridists were at work. The parent of the modern dahlia, to take but one example, had been cultivated in Europe since 1789, but

in 1826 the Royal Horticultural Society was growing sixty varieties, and by 1841 one English dealer listed the astonishing number of one thousand two hundred. Unfortunately, nobody thought of any more original ways of using this material than dotting it about in the landscapist's shrubbery, or embroidering it in patterns on



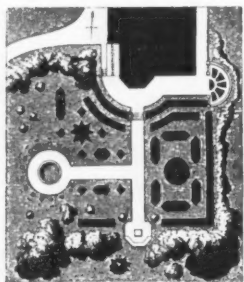
The characteristic components of the early nineteenth century garden are illustrated in the frontispiece to McIntosh's "Practical Gardener," right: rustic work; the magnification of the individual flower, and the intrusion of the bedding-out system into the landscaped park.

Above is a design for steps from Hughe's "Garden Architecture," showing debased architectural taste. Extreme right, a view of the gardens at Shrublands, laid out in the Italian manner by Sir Charles Barry and the artist Nesfield, with whom he collaborated on several occasions.





from Paris, it quickly became anglicized, and displayed, as well as the Banana, Agave and Chamaerops Palm, such frankly temperate plants as Japanese Maples, Bamboos and Berberis. The Banana especially called for elaborate protective measures to prevent its broad leaves being torn to ribbons in early summer gales. One important result this form of gardening had—it opened the eyes of the horticultural public to beauty of form and colour in foliage as well as in the flower itself. Since the turn



A suburban garden layout from Hugh's "Garden Architecture," 1866.

of the century when carpet bedding and sub-tropical gardening began to fall into disrepute, the ability of the horticultural eye to perceive aesthetic significance in the plant as a whole seems to have considerably lessened.

The mid-nineteenth century saw the arrival of the professor of landscape gardening. This figure was due to put in an appearance at about this time; Repton had been the perfect prototype, and enough literature had resulted from his period to produce in garden architecture the academic mind. Sad to relate, the professor did not make much stir among the English public, who liked their landscapists cast in the John Bull mould, and the academician was sent packing to America where he flourished exceedingly, set himself up in universities, and is no doubt partly the cause of the general lack of taste to be found in the landscape art of that country today. However, he figures in several English treatises of the 50's and 60's. The professor is entreated to be a man of delicacy, to hide his own feelings so as not to wound those of his employer, to pander to the ladies "who as a rule are possessed of taste in a more marked degree than are men"—in handling the latter he is urged to "yield in trifles, but in important cases present a firm but respectful opposition at the proper time, and at no other"—milk and water tactics indeed compared with those of our autocratic Brown.

Such caution would not appear to have been necessary. With no public appreciation of pleasing shapes or well-connected plans and with a limitless number of styles to draw on for variety, the professor could hardly fail to please. He was at liberty to draw diamond shaped beds for the terrace to the early Gothic house and barrel-shaped ones for the Elizabethan, with the satisfaction of knowing that he was working in an approved style. Occasionally details such as the correct number of steps in a flight were apt to worry him and he had to remember in a small stairway to make the number uneven so that the ascent

or descent might begin and finish with the same foot. Vases were another source of trouble, for although there were plenty of examples of the classic urn, it was almost impossible for a Gothic vase to avoid resembling "an octangular egg-cup, a wine glass of rude pattern, or a font." It was even considered doubtful whether a Gothic building or terrace would in any case permit a vase as an accessory. But apart from such details the professor led a care-free and industrious existence, rigorously imposing the principles of a new style in the gardens of a rising class of country gentlemen. The new Gothic pleasure-grounds did not in fact admit of much frivolity in decoration; they were as barren as the current conception of Gothic architecture. Slopes were allowed to take the place of balustrades: "crenellated copings are admissible, but will be found rather heavy. Yew and box hedges will suit well . . . the well-shaven bowling green is eminently suited to domestic Gothic; so is the ivy bed, ivy mound or ivied wall." All very monkish; but if you happened to possess a veritable Gothic garden like that of the Byron family at Newstead Abbey you could always enliven it by the addition of a French, a Spanish and an Italian parterre and Gothicize this mélange with the pointed balustrading which enclosed it. You had the unimpeachable authority of the architect of the new Houses of Parliament (whose Italian tour had been no less profitable than that of Addison, "the first Victorian") to dabble in whatever style you chose. Or, in the words of another designer:

"The modern architect may build a house in the classic or in the Gothic style; or he may adopt the historical and geographical variations of these styles, as exhibited in the Hindoo, Elizabethan, Italian, English, and other manners of building. In like manner, the landscape-gardener, who would lay out grounds at the present day, may adopt either the oldest, or geometrical style . . . or he may adopt the modern or irregular style in which the forms of nature are brought into immediate contrast with the forms of art; and he may, further, combine the two styles in such a manner as to join regularity and irregularity in one design."\*

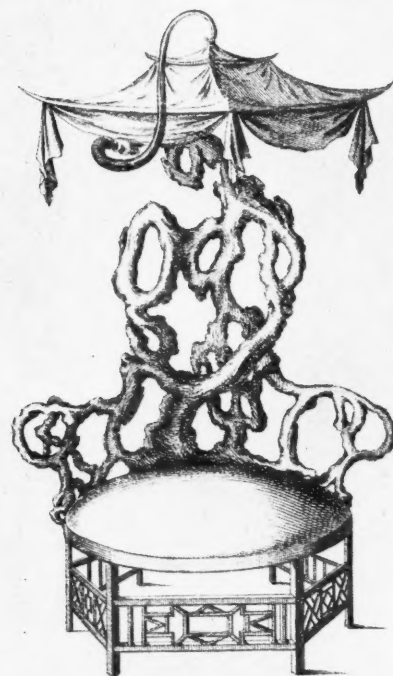
O glorious epoch, in which Hindoo and Italian contribute equally to the national style! Yet one could wish that in giving the horse his head the Victorians had kept a firmer hold on the reins.

\* P. 17, "The Villa Gardener," J. C. Loudon. London, 1850.



The sub-tropical garden was a fashionable type of the seventies. Above, the much frequented example in Battersea Park: tree Ferns and Stove Plants placed out for the summer in a sheltered dell. From Robinson's "English Flower Garden."

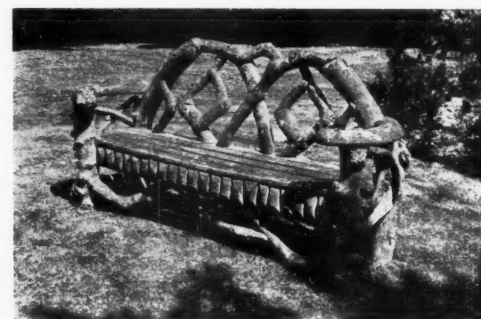
## THE GARDEN SEAT ITS EVOLUTION IN FORM AND MATERIAL



XVIII CENTURY.  
The Chinese Taste.



A wooden seat in a Gothic Temple at Pain's Hill.



LATE XVIII CENTURY.  
A rustic seat at St. Ann's Hill.



Cast iron seats with decorative plant motives: fern, nasturtium and lily of the valley. Early instances of mass production.



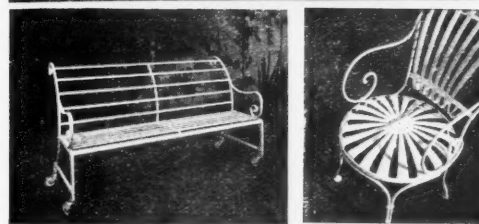
## RELICS OF A NEGRO KINGDOM

Following the defeat of Toussaint L'Ouverture and the departure of the French from Haiti the tyrannical governorship of Dessalines had ended in his assassination in 1806. He was succeeded by the general-in-chief of his army, the former slave-waiter, Henri Christophe, who was made President in 1807 and crowned King in 1812. The task with which Christophe was faced was a formidable one: a war-battered, fire-blackened country had to be restored to prosperity and order; industry and independence had to be instilled into a wearied population; but Christophe's energetic and determined rule marks one of the most prosperous periods in the history of Haiti. In spite of the tyrannical actions of his later years and the ultimate tragedy when, paralysed in body and deserted by his army, he is said to have shot himself with a golden bullet, he stands out as one of the greatest and strongest of the rulers of Haiti and as one of the most illustrious of the black race. It is as a builder, however, that Christophe is chiefly remembered, and in the neighbourhood of Cap Haitien are the remains of two of his most remarkable buildings; the "Citadelle" and his palace of "Sans Souci" at Milôt.



### EARLY XIX CENTURY

An elegant example in cast iron.



Another one and, on the right, a later type in highly-tempered steel.



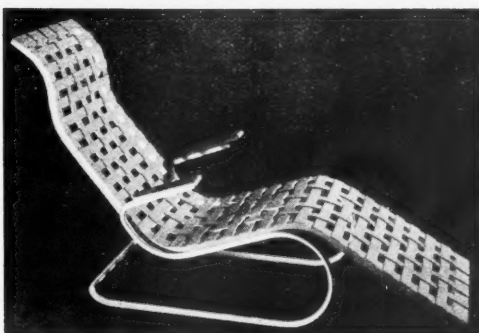
### LATE XIX CENTURY

An American example in cast aluminium.

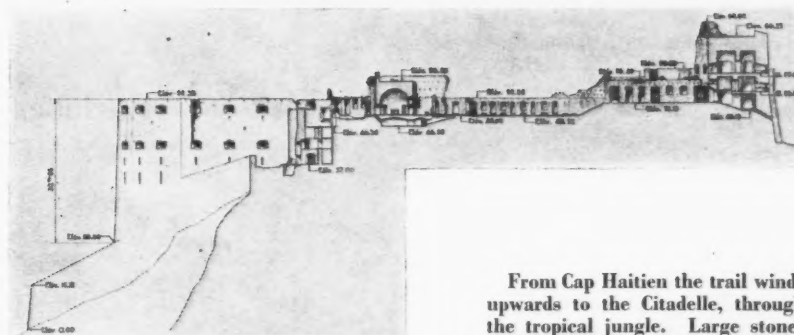
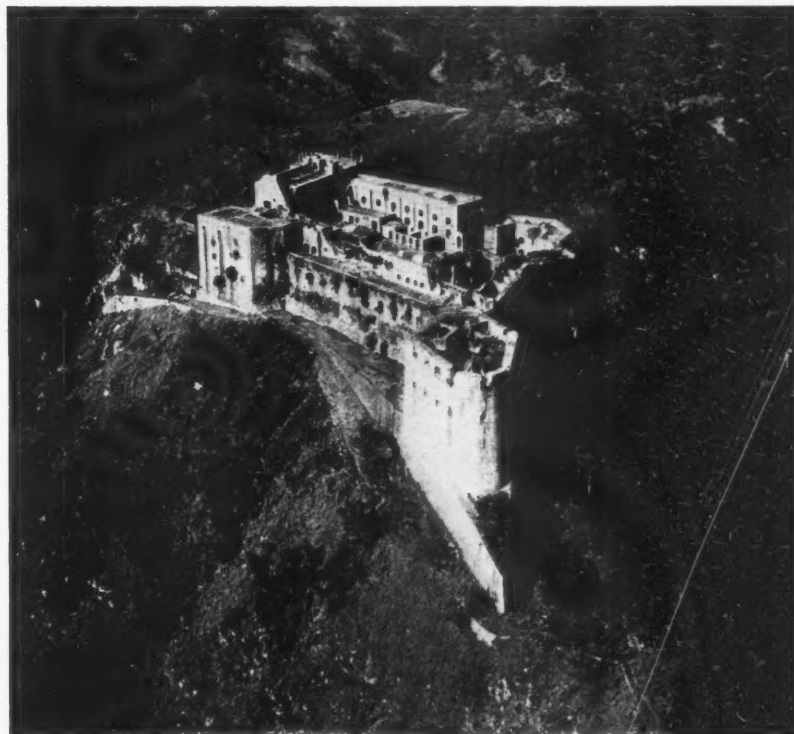


### XX CENTURY

A reaction from the above: the wooden "cottage" type.



A modern example designed for mass production by Christopher Nicholson.



In the general view of the "Citadelle" above and the section below it the main points of the plan can be seen: the gun-corridors surrounding the central court, and the barracks in the background. The bastion in the foreground contains the dungeons, and the illustration below gives some idea of the massiveness of their construction.

From Cap Haitien the trail winds upwards to the Citadelle, through the tropical jungle. Large stones were used to make it strong and serviceable for conveying all the materials for the building of the Citadelle and the three hundred and sixty-five guns which were installed for its defence. How well the road was made is proved by the fact that its condition is almost as good to-day as in the year 1820, since which time it has never been repaired. On three sides are chains of mountains, some bleak and bare, some thickly covered with forest, while falling cascades add to the beauty of the scene. On the fourth side the view opens across some of the richest land in Haiti to the sea in the distance.

The Citadelle was to be not merely a fortress but the Capitol of the kingdom and a last refuge and



retreat for the people in case of invasion. It was to be "The Palladium of Liberty and Independence." In Christophe's billiards room, which has two sentry boxes at the entrance, there is a fireplace, an unusual thing in a country which does not know hard winters, but when the clouds come down and a North wind blows it can be cold in these mountains. It is said that he wandered around at night when the building was under construction and feverishly worked at bricklaying after all the workers had departed, returning to Sans Souci in the small hours.

The greater part of the building is in good repair and looks as though it will stand for centuries. Most of the walls are from twenty to thirty feet thick. There are four gun corridors each two hundred and seventy feet long and thirty feet wide. The guns surround a spacious court in the centre of which is Christophe's tomb. The barracks provided accommodation for ten thousand men and the basement could easily house an extra two thousand in case of emergency. One section of the structure consisting of forty rooms was set aside for Christophe, his family and their staff. Quarters were provided for the Governor and if necessary the civilian population of Cap Haitien could have found refuge there. There are great storerooms for ammunition, rooms for the manufacture of gun-powder, a hospital, treasure chambers, and innumerable smaller rooms.

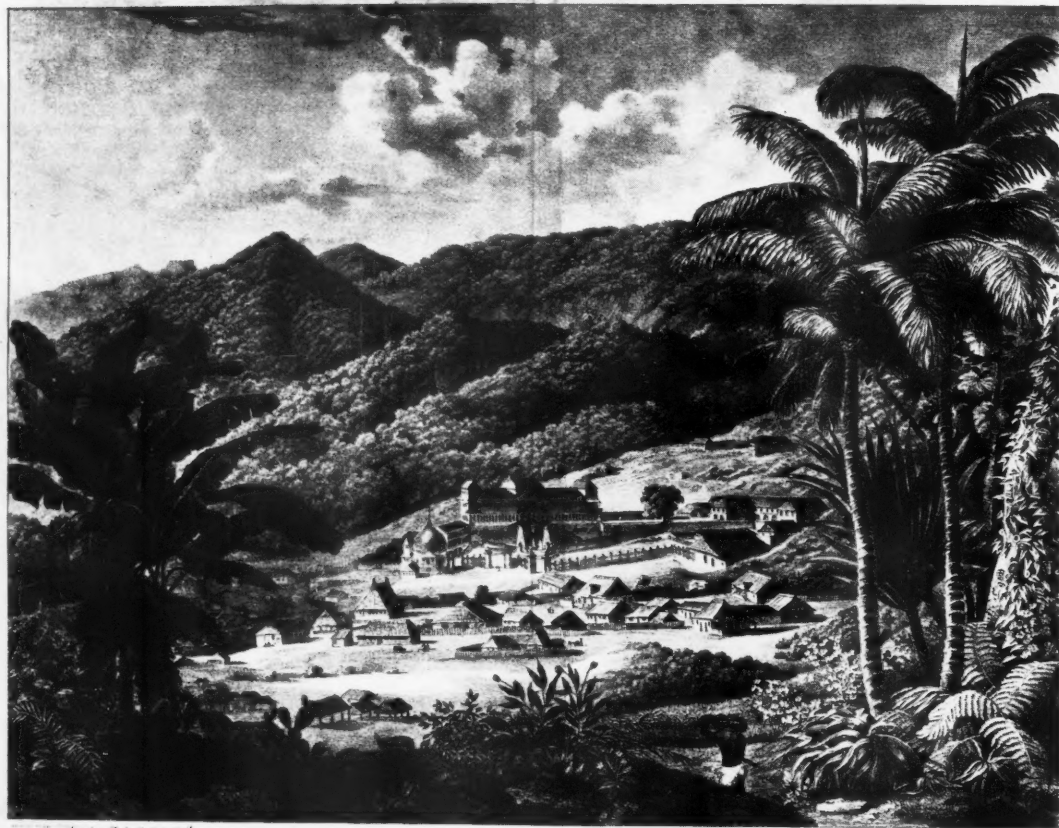
The original plans are missing, but are thought to be in Haiti. Verginaud Laconte, the greatest living authority on Christophe and his times names the mulatto engineer Henri Barré as having been commissioned by Christophe to prepare plans according to his instructions.

Christophe's favourite residence was the palace at "Sans Souci" and no building in the West Indies has as yet excelled it. The main building occupies an elevated position in the centre of an amphitheatre. The principal entrance is found on a wide terrace which is approached at each end by a magnificent stone staircase, on which are placed at intervals four sentry boxes. In this small enclosure of Sans Souci, only twenty acres in area, Christophe united all the arts and crafts necessary for individual needs and the successful administration of public affairs.

MABEL STEEDMAN



A view of the remains of "Sans Souci" as they are to-day.



"Sans Souci" as it was in the days of Christophe.

Book of the Month.

## Matters of Taste

By Donald E. Pilcher

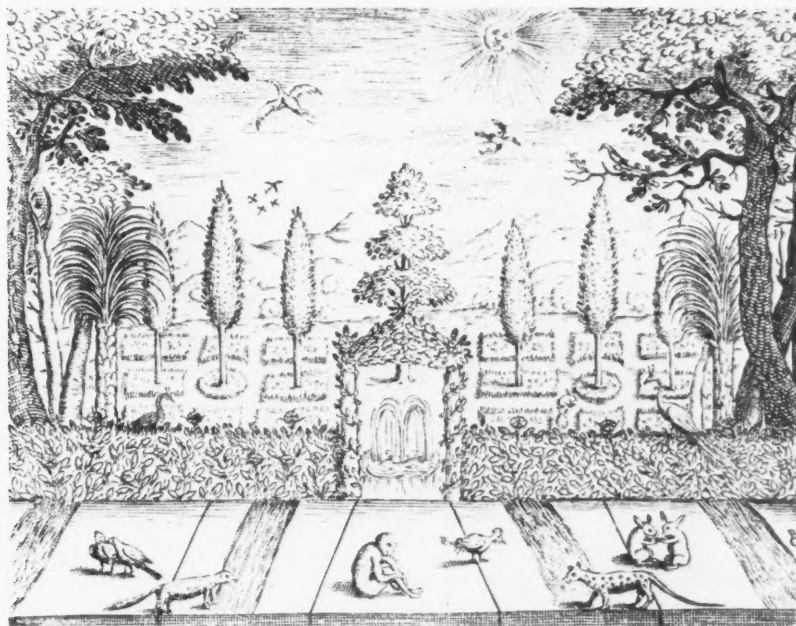
TIDES IN ENGLISH TASTE. By B. Sprague Allen. Harvard University Press. London: Humphrey Milford. Price 34s.

ON the particular ground he must tread, that anomalous territory between the æsthetic and intellectual worlds, the modern analyst of "Taste" can seldom expect to feel secure. That failure to reconcile æsthetic constants with the intellectual point of view which was largely the result of the growing historical consciousness of the nineteenth century still obscures too many of the architectural issues of to-day. In fact for a nice adjustment between what, in modern architectural criticism, have often become antagonistic points of view one must look back with due respect to the early years of the nineteenth century when John Britton was interpreting with such sympathy and thoroughness the

picturesque aspirations of Soane and his contemporary Gothic revivalists.

Mr. Allen, whose book "has grown out of his gradual realization of the extent to which the history of art constitutes a most vivid, enlightening commentary on the history of literature" has, within the limitations of an essentially literary outlook, given us what is probably the most comprehensive and is certainly one of the most informative analyses of "Taste" by a modern writer. It is unfortunate that he has not always appreciated that there are limitations to this outlook; that, at least in the case of architecture, its external forms cannot be considered as being entirely a response to successive phases of taste but also to changing external conditions, social, technical and economic and to the attempts of





The Garden of Eden as illustrated in "L'Adamo" of Andreini, Milan, 1617: the picture to which Joseph Warton contrasted Milton's Eden (erroneously in Mr. Allen's opinion) in his "Essay on Pope." It is one of the many well-selected illustrations in "Tides in English Taste."

architects to explore new fields of spatiality. Also that its qualities of design are often more than sufficient to justify what from a purely intellectual point of view must be condemned as irrational and contrary. In *Tides in English Taste* the tendency to underestimate the importance of these considerations in the case of architecture is the more regrettable because in certain other fields which are explored their significance has been clearly appreciated, and these sections of the book have gained immeasurably in consequence. This is particularly the case in the chapters dealing with garden design. The limited orderliness of the Italian Renaissance garden, expanding to wider horizons through the less rigid enclosures of London and Wise, Bridgeman's "ha-ha" and Kent's final leap into the all-embracing spatiality of the "picturesque" landscape, all of these are interpreted not merely as vacillations between the poles of formal and naturalistic "taste," but also as the means by which garden designers, as it is explained in one context, "awakened and intensified the consciousness of space." It is this as much as the necessary sympathy of a scholarly mind with the essentially literary associations of the landscape garden which make these chapters some of the most readable and informative in the book. In his disapproval of Jacobean architecture and respect for Inigo Jones and Wren Mr. Allen shows the "correctness" of his taste by modern standards, but, chiefly on grounds of the "inappropriateness" of Palladian design to the English climate, he shows little respect for the eighteenth century. As a true American his most vivid recollection of Palladian country houses is their draughtiness and throughout the whole series of splendid eighteenth century buildings which he discusses there blows this chill wind of his displeasure at their technical imperfections.

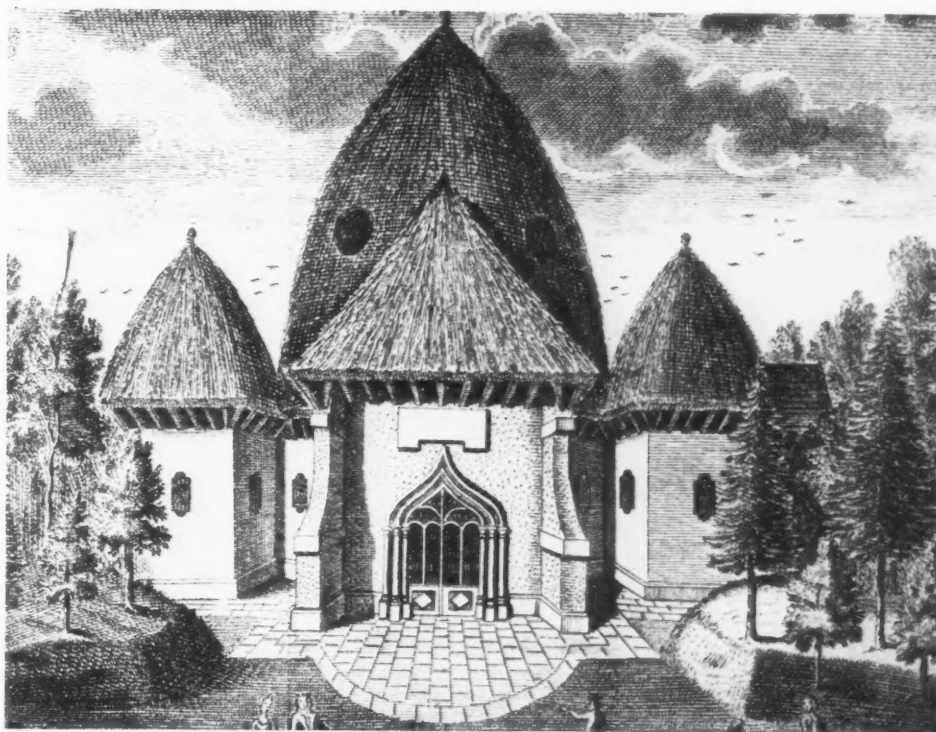
Individual architects fare no better. Kent's

talents, we are told, "were of a mediocre order," and he was "deficient in artistic feeling." In the case of Robert Adam: "His work as an architect is mediocre and marked even in the famous Adelphi Buildings in the Strand by insipidity." His consideration of town-planning shows similar limitations. The tradition of planning which through the

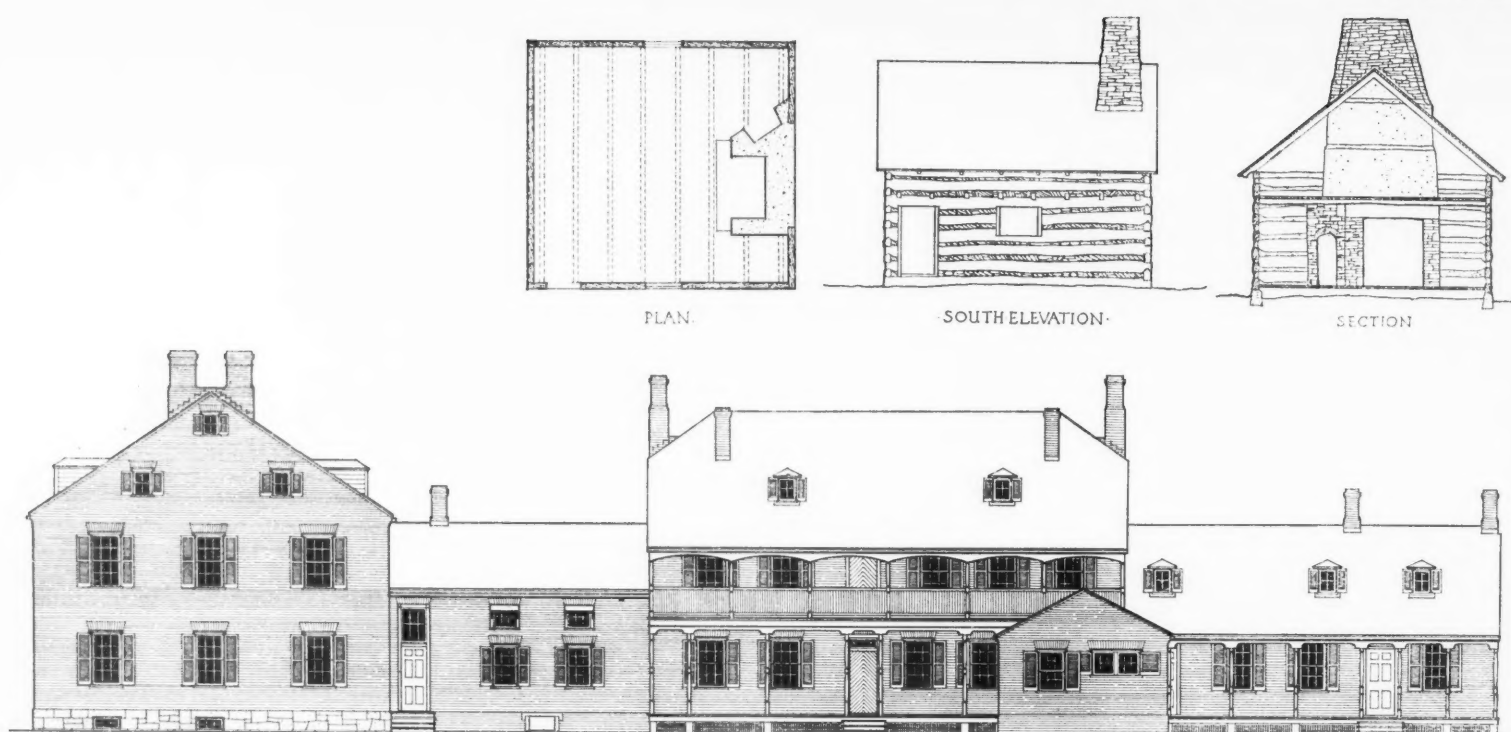
careful adaptation of the English village to the surrounding countryside developed characteristic forms of layout: the reflection of these forms in the layout of the university quadrangles and the later London squares, without an appreciation of this framework and John Wood's contribution to it, his work at Bath and the hints of a wider spatiality in the planning of the Royal Crescent might strike us as it strikes Mr. Allen as "having only the virtues of a good, correct academic exercise."

The author's adoption of the common academic view of architecture as entirely a "matter of taste" is all the more regrettable because of the real value of his observations on the successive manifestations of taste as such. In observations covering a very wide field he has managed to preserve a clear relationship between the recurring tides of taste and those undercurrents of Gothic antiquarianism and of Chinoiserie and Rococo decoration in which he sees evidence of an underlying dissatisfaction with the inflexibility of the reigning Palladian rules: (although one would have liked in this connection a greater emphasis on the distinction made so admirably in Miss van Erdberg's recent book\* between Chambers' authentic versions of Chinese architecture and the purely fanciful and imaginative designs that preceded them). And from that morass of minor Restoration plays, travel diaries, advertisements and account books which can be as valuable as the recognized literature of criticism in recording the reactions of their contemporaries to successive waves of taste, he has rescued some splendid characters: Sir Positive Atall from Shadwell's "Sullen Lovers," with his seventeen alternative plans for rebuilding London after the Fire, James Cawthorn, the Master of

\* *Chinese Influence on European Garden Structures*, by Eleanor van Erdberg: Harvard University Press.



"Merlin's Cave," an astonishing garden building designed by William Kent in 1735 for Queen Caroline's gardens at Richmond. "Within, in niches framed with Gothic arches, were six figures in wax, representing Merlin and his secretary, Queen Elizabeth and her nurse, the Queen of Henry VII, and Minerva." From "Tides in English Taste."



The log house of Robert Neal, top, represents the American timber house in its simplest form. Centre, the garden façade of The Great House at Economy, the home of George Rapp, leader of the "Harmony Society." It also served as a meeting place for the Board of Elders and other groups. Left, the Gordon House, near Wayneburg, built in 1843, is a distinguished example of the Greek Revival type. From "The Early Architecture of Western Pennsylvania."

Tonbridge School, compelling his boys to deliver chains of heroic couplets on speech days condemning the reigning Palladian taste, Burnet and his remarkable "Theory of Earth," and the splendid Chesterfieldian passage with its conclusion that: "As long as I have had the full sense of my reason, nobody has ever heard me laugh."

**The Puritan Tradition**  
THE EARLY ARCHITECTURE OF WESTERN PENNSYLVANIA. By Charles Morse Stotz. New York: William Helburn, Inc. Price \$15.

IN the general search for a solution of the small house problem there has, in recent years, been increasing recognition in this country

of the fact that timber as a building material possesses many advantages. It is in accordance with our national character that we should proceed with caution before generally adopting any form of building to which we are not completely accustomed. The general public, with the army-hut and shack tradition in their minds, are not easy to convince. Architects are well aware that the fears of the public are ill-founded; they know so well that timber has for many centuries been the major building material in countries which have a far more rigorous climate than our own and that a fine tradition of timber design already exists.

Any book, therefore, which deals with the timber house on a high plane of achievement must be welcome for the sake of the precedents it indicates as well as for its antiquarian interest.

The *Early Architecture of Western Pennsylvania* is a monumental work. It is the project of the Pittsburgh Chapter of the American Institute of Architects and the Buhl Foundation, and has been produced by a distinguished survey committee. Dealing as it does with the work of over a century in the twenty-seven counties of Western Pennsylvania it covers much of the best building of the Colonial and early republican days. Every time a new field is opened in Colonial America one is astonished at its unexpected richness.

The book contains more than 400 photographs of buildings and over 100 measured drawings. The drawings, and indeed, the whole book, are beyond reproach. It is beautifully produced, and annotated and indexed in that efficient way which we have learnt to associate with American publications.

Possibly I have over-emphasized its value as a "timber" book because I think that may be its chief interest. It is also a fine piece of scholarly research, and Pennsylvania is rich in good building stone, in which material there is also much fine work shown. The detail is nearly all good, and has a curious un-European touch even in the earliest examples. The whole period breathes the atmosphere of a great dignified Puritan tradition, a tradition of honesty and independence which, exactly one hundred years ago, assembled its finest men to draw up its great constitution.

In the simple buildings which this book has collected together that tradition is worthily expressed.

R. FURNEAUX JORDAN





**OVERLEAF:*****AT CLOSE RANGE.***

The photograph overleaf shows a portion of the Polar Bear Pit at Dudley Zoo—as it emerged from the shuttering. In order to give a consistent texture to the concrete, which had to be cast under very varying site and weather conditions, a special corrugated metal shuttering was used which gives a very pleasant ribbed effect to the concrete surface. The standard balustrade seen in this photograph is a common denominator in all the buildings in the zoo and can be recognized in most of the photographs illustrating the zoo on pages 177–186 of this issue. It consists of a 6 in. reinforced concrete wall with a 12 in. by 3 in. reinforced concrete coping on top of it, supported on oval-section drawn steel tubes. The architects for the Zoo were Lubetkin and Tecton.

PLATE ii, November 1937



# DECORATION

THE ARCHITECTURAL REVIEW SUPPLEMENT

NOVEMBER 1937

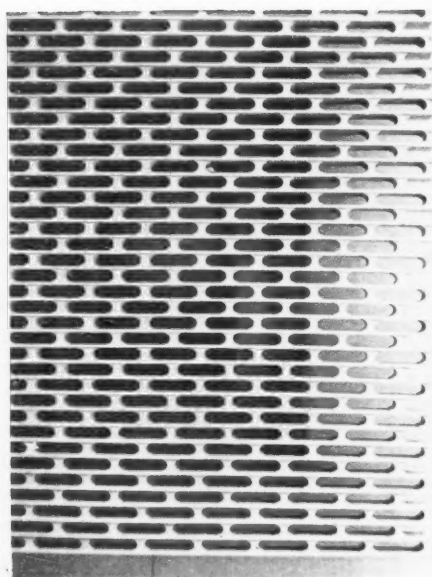
•  
RESTAURANT AT  
HELSINGFORS  
ALVAR AALTO,  
ARCHITECT

A NEW TECHNIQUE  
OF CINEMA LIGHTING  
DESIGNED BY  
EUGENE MOLLO

VARIATIONS ON A  
FAMILIAR THEME:  
WINDSOR CHAIRS  
OF THE REGENCY  
PERIOD, BY  
J. D. U. WARD



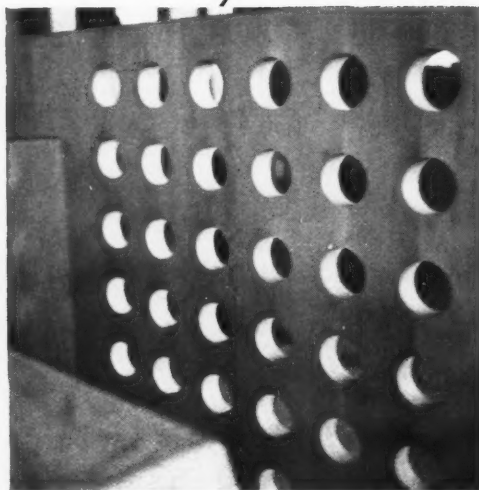
A feature of the Savoy Restaurant in Helsingfors is the decorative use of vegetation in the interior. The photograph above shows the trellis-work of growing creepers that forms a living curtain to each of the windows overlooking the balcony; and the sensibly-shaped large earthenware pans in which their roots are planted.



4, SLOTTED PLYWOOD PANEL, forming shade to ceiling light-fittings.



5, WOOD SIDE-TABLE, supported on base of vertical wooden slats.



6, PERFORATED WOOD PANEL, serving as a screen.



## THE SAVOY

This restaurant, of which 1 and 3 are general interiors, occupies the top floor of a rather tall office-block, the set-back of which provides quite a wide terrace for open-air meals in summer. The terrace, 2, is treated without any attempt at formal or decorative sophistication: with wicker furniture, and shrubs in tubs as partitions between the tables, over each of which hangs a white-painted lamp attached to the metal balustrading of the parapet.

The interior is a characteristic example of the architect's fertile genius for evolving new decorative forms from the simplest and most straightforward uses of wood. Thus the banqueting-hall, 7, has a continuous grille of diagonal struts (shown close-up in 8) running along its inner wall like the mangers of a stables or an oar-rack in a boathouse. Creepers planted in boxes recessed behind this rafting twine in and out of the bars—live ornament which extends its leafage, and so changes its design, with each year's fresh growth. 4, 5, and 6, are close-up details of elements shown in the general interior. 4: an uncomplicated, slightly mechanistic, abstract pattern, slotted out of plywood boards to form ceiling panels for the indirect lighting; 5, a side-table, showing wood used in two ways; and, 16, a perforated panel that serves as a low screen to the table nearest the door. Though comfortable, the up-





2



3

## RESTAURANT, HELSINGFORS. ALVAR AALTO, ARCHITECT

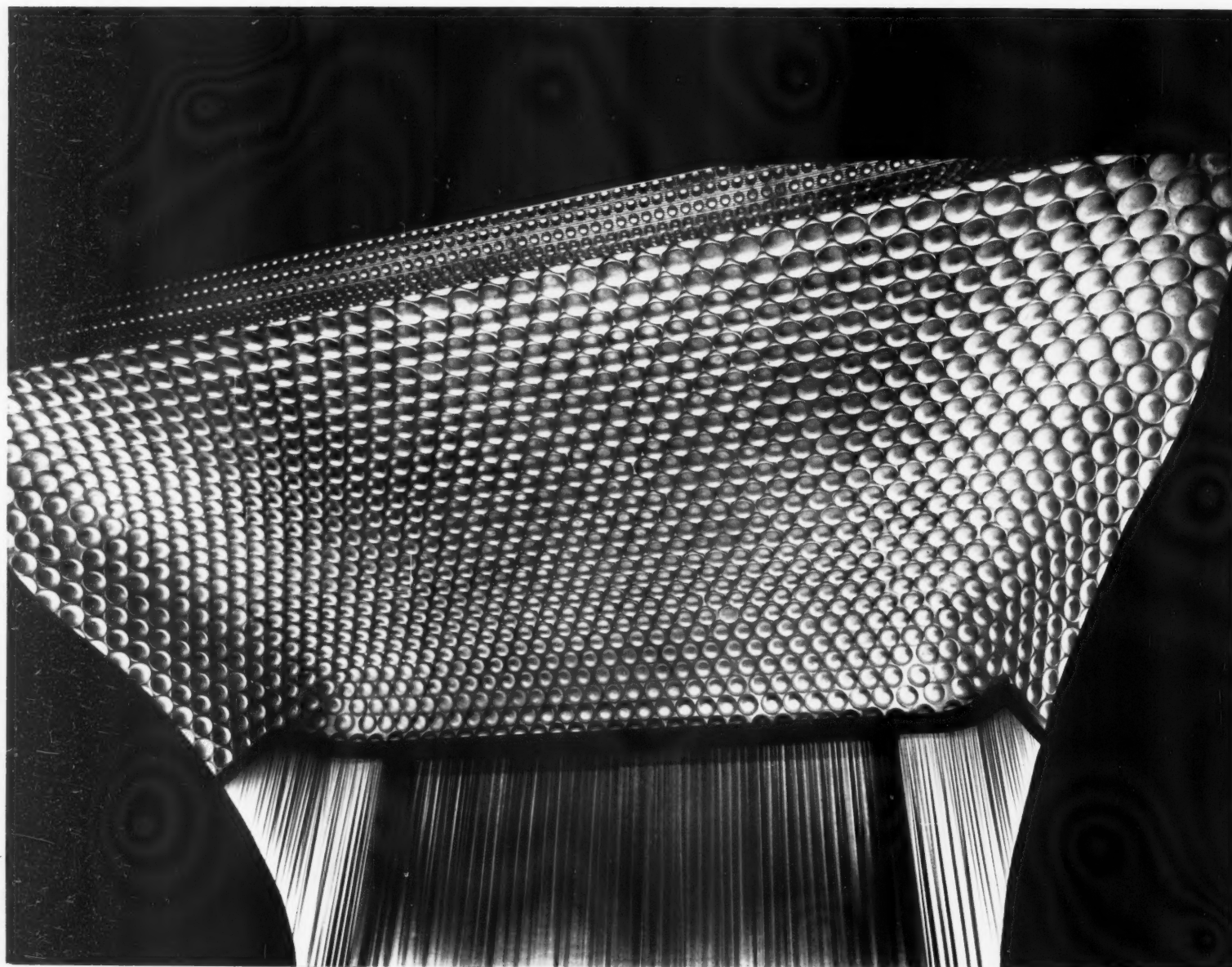
holstered furniture is very simple and subdued—in fact almost traditional. Rather English-looking curtains give a gay, informal note to the room. The bell-shaped glass lamps suspended over the long table in 7 are the architect's own patent totally-enclosed model, moulded in a single piece, iridescent green on the outside and iridescent white inside.



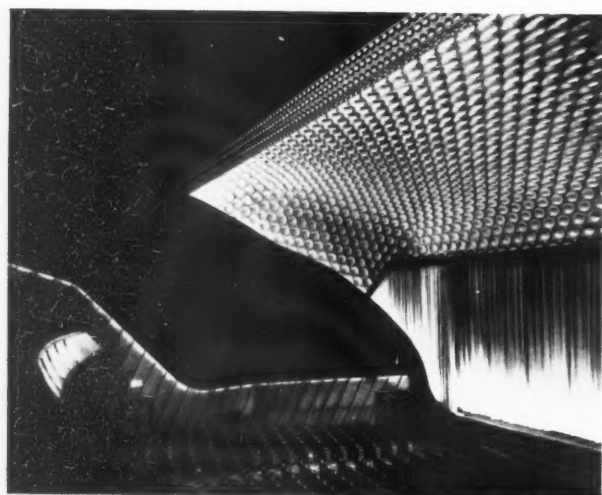
7



8



A   N E W   T E C H N I Q U E  
O F   C I N E M A   L I G H T I N G  
D E S I G N E D   B Y   E U G E N E   M O L L O



2

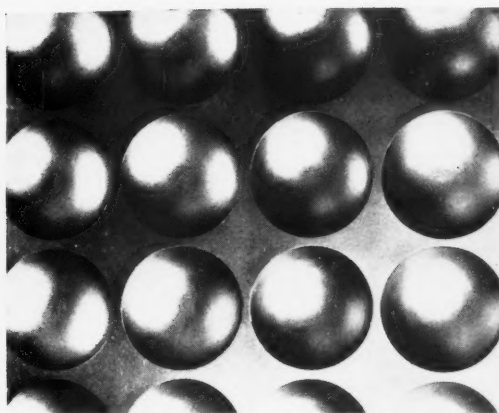
It is in recent years only that architects have been faced with the problem of designing for artificial light exclusively, and the cinema auditorium is a typical example of an interior never seen except under these conditions. It is the final appearance rather than the form itself that counts under these circumstances, the final appearance depending entirely upon the way in which it is lit. By varying the position of the light we vary the appearance of the shape. At the same time, by varying the shape, the surface treatment, the colour, etc., one may vary the amount of light which this

particular shape is able to receive. By combining the two one may achieve practically any effect desirable.

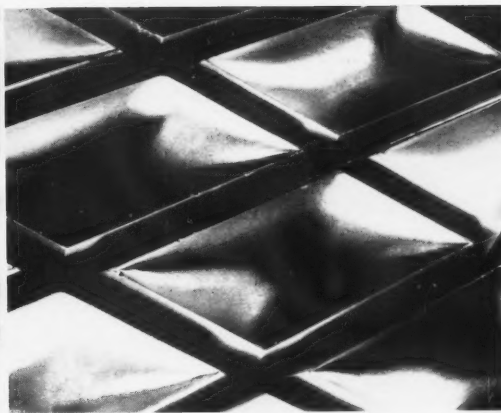
The Odeon, Yeovil, auditorium has been designed on the new principle of considering shape and light as one. The close co-operation of a lighting expert and architectural designer was of course essential.

The whole of the auditorium is sub-divided into two distinct worlds, one of light and the other of shade. The dividing line between the two is in itself the chief decorative motif. Starting at the back of the auditorium it follows the balcony raker, dropping continuously down

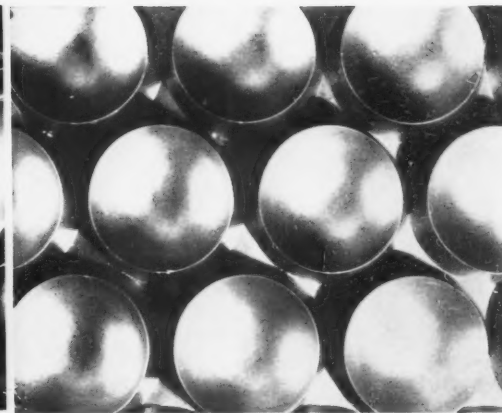




3



4



5

until it reaches the proscenium on a level with the orchestra barrier. The whole of the area of balcony and stalls seating is in comparative darkness, leaving just a sufficiency of light. This part of the cinema is treated throughout in subdued tones: dark carpets, dark upholstery, dark non-reflective wall treatment; in fact there is nothing to attract the eye and divert its attention from the proscenium end. The diagonal line dividing light from shaded portions is a logical solution to the problem of the interior decoration of cinemas, for in the cinema neither horizontal nor vertical planes predominate. Hence the curious results when, in the early days of the cinema, architects tried to adapt classical motives to their interiors.

The greater portion of the main ceiling and the proscenium surrounds is in the form of a parabolic reflector consisting of small concave domes. These shapes are based on the principle of prismatic glass, and a system of specially installed coloured "floods" in different portions of the cinema, controlled by auto-selective dimmer control, converts them into a transparent and glimmering mass of light, and the whole colour scheme can be changed by a mere touch of the control board.

There is hardly any doubt that colour films will soon replace black and white. This method of auditorium interior treatment has been evolved after taking into account the inevitability of the appearance of the coloured film and the technical and psychological changes it may be expected to introduce.

1, is a view of the proscenium and, 2, a view of the auditorium of the Odeon Cinema at Yeovil where the new system of parabolic reflection lighting has been installed. 3, 4 and 5, are different types of reflective domes which are constructed in fibrous plaster and finished in cellulose spray.

## Variations on a Familiar Theme

### WINDSOR CHAIRS OF THE REGENCY PERIOD

*From time to time we have been publishing in these pages a "Bulletin of Standard Designs," whose purpose has been the compilation of a record of the good standard designs in the way of furniture and equipment available in this country. But standardization is not exclusively a modern idea. All ages have had their type forms, evolved and perfected to suit current taste and temperament. In this article the design of one very familiar type of traditional furniture is studied. It will be noted that even in early days the standardization was linked with the method of production as it is to-day.—[ED.].*

It is well to remember that Windsor chair styles lagged some ten to thirty years behind fine furniture styles, so that many chairs which show Hepplewhite influence, such as those illustrated in 1, (overleaf) were probably made in the Regency period. (Although the Regency actually lasted only from 1811 to 1820, the "Regency Period" is usually taken to mean the years between 1795 to 1830). The three-splat idea, obviously borrowed from some of Hepplewhite's dining-room chair designs, is an interesting and graceful variation on the more usual stickback, one-splat patterns of Windsor chairs. Occasionally a three-splat chair with three feathers in all the splats may be found, but such pieces are very scarce.

The three feathers (found in so many single-splat Windsors and illustrated in a very crude form in 2) are often called the "Regency feathers," but they were not, as many people imagine, an innovation of the Regency; they were used as a decorative device by Hepplewhite a little before 1780 in a set of fine mahogany chairs made for the Prince of Wales more than a quarter of a century before he became Regent. It is probable, however, that most surviving Windsor chairs carrying the feathers in their splats were actually made during the Regency period.

At this time there were two diverse tendencies, both unfortunate, in Windsor chair design. One was towards weakness, excessive ornament and finicky detail; the other towards coarseness: a tendency which is specially marked in the well-known and popular "Yorkshire" Windsor chairs with hoop-backs, and very heavily turned legs, but it can also be seen in 2, which is an uncommon design. The top-rail of the back (which succeeded the more familiar hoop-back in Queen Anne times, and was then quite graceful) grew heavy and comparatively shapeless. Thus it developed into the tablet-top, illustrated in 5 and 6.

Both these last pieces, though typical in this feature, are of uncommon design. They show clearly the classical influence prevailing at this time, and they are also typical in being structurally weaker than the common cottage chairs of the preceding period: 6, is a rare pattern, but there is a notable exception to its rarity, namely that numbers of these chairs survive at the Bodleian Library, Oxford, and a few are in the Radclyffe Camera and the buildings of the Clarendon Press. At the last place, an old bill for the supply of chairs of this kind was found a few years ago—only to be lost since. So far as can be remembered, however, the bill

was dated about 1832, and the price of the chairs was 6s. each. The Bodleian chairs, some of which the writer has used, are mostly made of yew, with elm seats.

No notes on Regency Windsor chairs would be complete without some mention of the curious new type developed by Dan and Richard Day at Mendlesham in Suffolk. These chairs, which are scarce without being exceptionally rare, illustrate well the tendency towards weakness, ornament and finicky detail. Richard Day, who was at one time a pupil in Sheraton's workshop, kept to the Windsor tradition so far as the legs and seats of his chairs were concerned, but broke away from it when he came to make the backs. To argue about tastes is unprofitable, but it may be sufficient to say that, while some people like Mendlesham chairs, many enthusiasts for "cottage antiques" despise them as neither fish, fowl, nor good red herring. A representative selection from the fine collection at Christchurch Mansion, Ipswich (now a museum), is given in 7: all of these chairs have inlaid backs. Inlay is unknown in any other kind of Windsor chair, but it is found in most, though not all, Mendlesham chairs. The little balls are another characteristic feature.

A few final notes for the student of structural details. Regency Windsor chairs usually have very little shape in their seats: only in the earlier Windsors is the saddle-shaping commonly pronounced. The turning of the legs is usually poor, and often their points are much too narrow, so that with the passing years a chair becomes lower, the legs being quickly worn down. In most Regency Windsors the legs were not brought right through to the top of the seat to be wedged from the top, as was the custom up to about 1780. During this period Windsor chair makers used much the same woods as their fathers had done. Seats were commonly of elm, but sometimes of ash. Other parts of the chairs are of yew, the fruitwoods, beech, ash or birch. Mendlesham chairs are generally of fruitwood (except for their elm seats), but birch was sometimes used. The inlay was usually of box or some similar wood, but brass was occasionally used, as in more luxurious furniture of the same period.

J. D. U. WARD



1. A series of Windsor chairs showing the influence of Hepplewhite but probably made during the Regency period.



2. A crude version of the so-called "Regency Feathers" is shown in 2, and a rare three-splat type in 3. On the left in 4, is a Yew-wood "Yorkshire" type made about 1810-1830. 5 and 6, show the tablet top which in many Regency Windsor chairs replaced the hoop back. 7, is a selection from the collection of chairs at the Christchurch Mansion Museum at Ipswich. 3, is reproduced by courtesy of Acton Surgery Ltd., and 4, by courtesy of Hampton and Sons, Ltd.





# The Cathedral Close

For some time after Aurelia had left her, Lady Anne stood in the window looking out upon the Cathedral. There was usually a little scaffolding about it. . . . If she had a voice in the matter it should never be allowed to come away. Her spirit shrank from the peculiar oppressiveness of perfection. And the Cathedral was very perfect indeed. How admirable, through the just sufficient drapery of the trees, were the great glazed windows that flashed like black diamonds in the sun. The glass, indeed, at Ashringford was so wonderful that sticks and umbrellas were left (by order) at the door . . . .

Lady Anne looked up at the large contented towers and fetched a sigh. They were lovely.

Without veiling her eyes, they were as near perfection as she could conveniently bear. Placed at the end of the tennis lawn too, they had saved her from many a run.

Miss Missingham, in her *Sacerdotalism and Satanism*, has called the whole thing heavy, "*Very weighty indeed*," although she willingly admits that at twilight the towers, with their many pinnacles, become utterly fantastic, *like the helmets of eunuchs in carnival time*. But then, if there was not much spontaneity about them on the whole, they had taken so long to build. Stone towers cannot be dashed off like Fragonard's *Inspiration*.

At the Pilgrims' Depot in the busy High Street there is to be obtained an anthology of "Last Words," culled chiefly from the lips of the womenkind of the Episcopal set. If the sayings of these ladies were often salty and frequently pointed, the Palace, it should be said, faced a Gothic arch.

Built around two sides of a quadrangle, it was, according to local taste, an ugly, forlorn affair, its bricks having been masked by stucco in 1785. Here and there, where the stucco had chipped away, the brick peeped out as if some rare fresco lay smothered underneath. From a flagged courtyard a classic staircase of divine proportions swept, exteriorly, to a broad balcony above the ground floor (spoken of sometimes as the loggia), which created, perhaps, something of a grand-opera effect.

It was here, recumbent upon a deck-chair, propped up by piles of brilliant cushions, that Mrs. Henedge, in her day, preferred to drink afternoon tea, surrounded by the most notable Church dignitaries that she could find.

It was told that at one of these courts she had had as many as three bishops simultaneously handing her toast.

What wonder was it that persons should linger in delighted amazement at the wrought-iron gates until they formed a substantial crowd?

Carts would draw up, motorists stop, pedestrians sit down.

Lady Anne, on the contrary, preferred to hold her receptions out of sight. To many, unquestionably it was a blow.

She preferred, when not indoors, her tennis lawn, with its high clipped hedges, behind which the Cathedral rose inscrutably, a soft grey pile elongating itself above the trees, from whence would fall, fitfully, the saintly caw-cawing of the rooks.

Lady Anne's eyes fell from the wise old towers.

Framed in the expiring windows of the china-cupboard, the glimpse of Ashringford was entrancing quite. Across the meadows could be seen the struggling silver of the broad river, as it curled about Crawbery, invariably with some enthusiast, rod in hand, waiting quietly upon the bank. Nearer, hither and thither, appeared a few sleepy spires of churches, too sensible to compete with the Cathedral, but nevertheless possibly more personal; like the minor characters in repertoire that support the *star*.

RONALD FIRBANK  
(Vainglory: Duckworth)

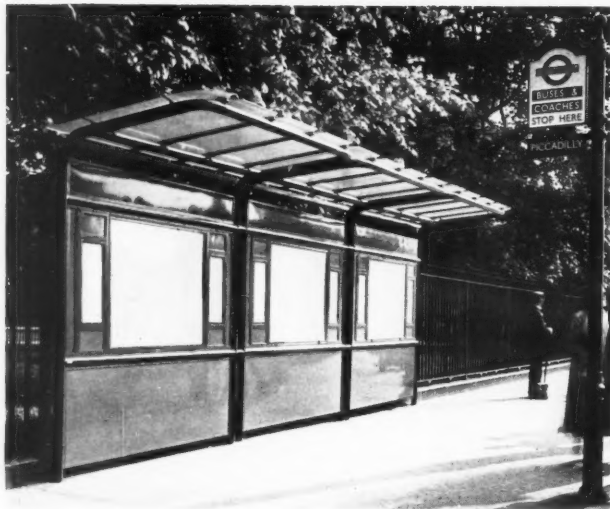
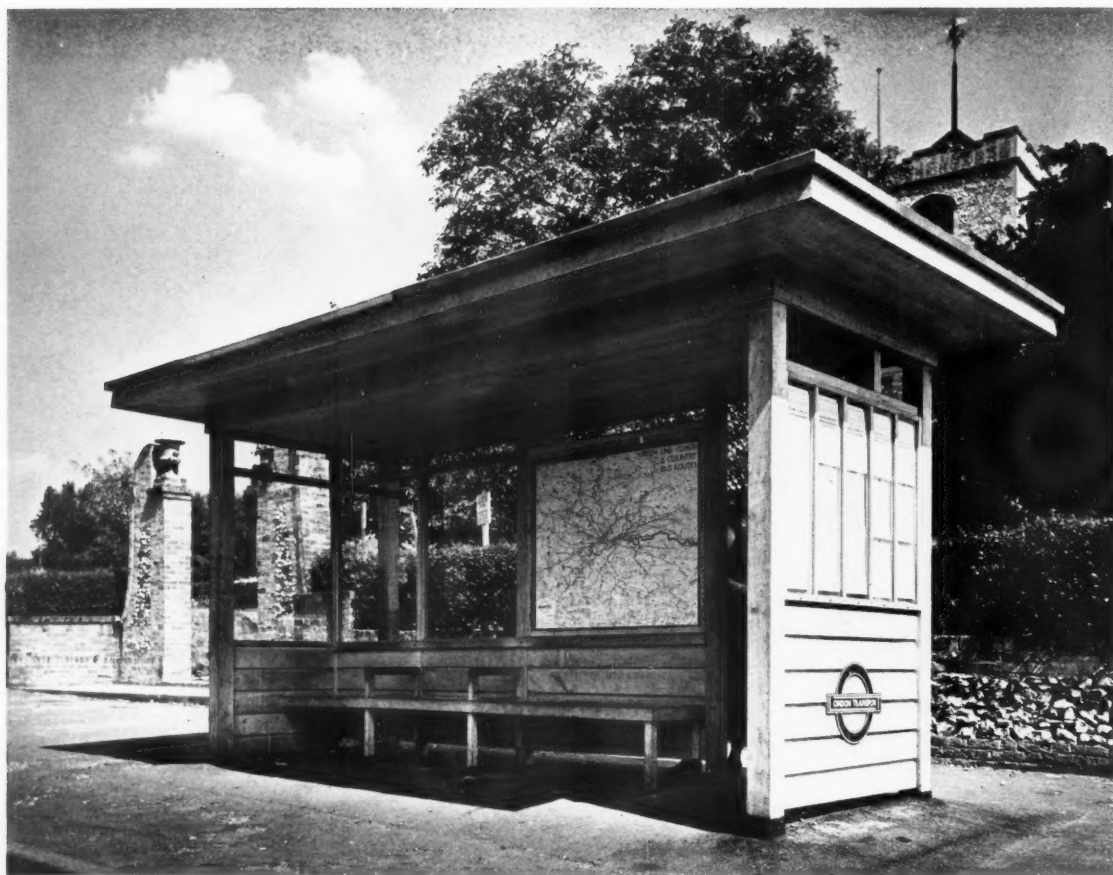
## Special Issue

Conforming with THE ARCHITECTURAL REVIEW'S usual custom, the December issue will be a double one. The subject selected for discussion in it is that of Interiors. It will contain, as well as articles on various aspects of the subject, a survey of current English practice in interior design after the same fashion as the two previous December double numbers, which have dealt with Standard Equipment and Houses. The price of the issue will be 5—instead of 2 6d.

## Black and White

The article under the above title which begins on page 165 is accompanied by a number of illustrations whose exact location is not given in the captions as it is irrelevant to the purpose they serve. They are reproduced as types exemplifying a tradition in design rather than as individual objects. For those, however, whose curiosity demands a more specific identification the following notes are added:

1. On the beach at Dungeness.
2. On the quay at Bideford.
3. Weymouth quay.
4. Broadstairs.
5. Porthleven, Cornwall.
6. Newhaven.
7. Penzance harbour lighthouse.
8. The lifeboat house, Rye harbour.
9. Port Mellon, Cornwall.
10. Penzance.
11. Portishead, Somerset.
12. Buoy at Penzance.
13. In the Trinity House buoy-store, Penzance.
14. Dungeness: the lighthouse.
15. H.M.S. Foudroyant.
16. The steel sailing-ship S. Bann, 1883.
17. Port Hope Cove, Isle of Portland.
18. Weymouth.
19. Par Sands, Cornwall.
20. The Lizard lighthouse.
21. Pendennis lighthouse, Cornwall.
22. Canal lock, Bude, Cornwall.
23. Southern Railway.
24. Notice on a bridge: Limpley Stoke, Somerset.
25. Three Bridges station.
26. Cornwall.
27. Half a mile from The Lizard.
28. Metropolitan Police area.
29. Primrose Hill, London.
30. Weymouth.
31. St. Ives.
32. Primrose Hill, London.



The contribution that the London Passenger Transport Board has made to the pictorial amenities of our towns and suburbs, through its high standard of design in equipment and advertisements, has often been referred to. Here are two new examples of the Board's standardized equipment. Above: 'bus shelter in wood for use in rural or semi-rural districts. Left: town 'bus shelter in tubular steel, enamelled steel sheet and wired glass.

cottages at Newlyn has at once produced, is, of course, very gratifying.

The cottages are, at the moment, charming to look at, and their removal would doubtless spoil the character of the place. Moreover, in addition to the aesthetic ones there are practical objections. The fishermen, doubtless owing to years spent alongside the artists, seem to be more than usually articulate in defence of their rights and have presented them forcibly and with the maximum publicity.

One wishes them every success, but at the same time one cannot help reflecting on the strange fact that in this country it is only in defence of the small and the old that the general public will wax enthusiastic and indignant. Any amount of Georgian terraces and Regency squares can be pulled down, every classic town hall and every eighteenth century shop-front swept away to build an arterial road, and no one except a few pull down some fishermen's cranks will raise a finger. But

33, Top row: York Road, Waterloo; Bloomsbury; Hammersmith Broadway; Westminster, Middle row: Westminster; Whitehall; Baker St.; Trafalgar Sq.; Bottom row: Westminster Bridge; Charing Cross; St. John's Wood; Regent's Park. 34, Left to right: Charing Cross; Hammersmith Broadway; Regent's Park; any suburb; Hyde Park Corner; Kew.

35, Bath Road.

36, Bideford, Somerset.

37, Near Salisbury.

38, Wivenhoe, Essex.

39, Near Helston, Cornwall.

40, Broadstairs.

41, Appledore, N. Devon.

42, Lewes, Sussex.

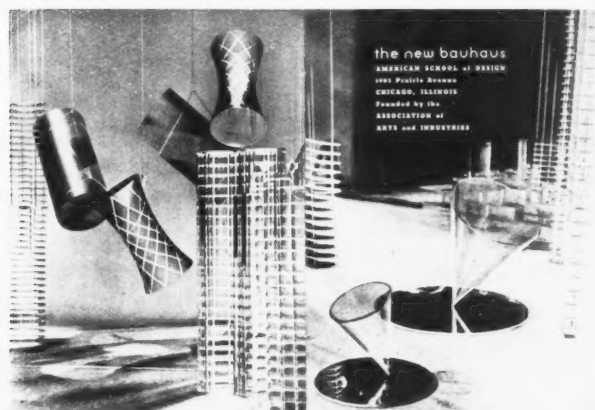
43, Bideford, Devon.

44, Woodmancote, Sussex.

#### The Cottagephils

The burst of righteous indignation which the proposal to pull down some fishermen's





England's loss is America's gain. No more suitable principal than Prof. Moholy-Nagy could have been found for the New Bauhaus (above is the cover of the prospectus) that opened this autumn in Chicago. In the original Bauhaus at Dessau Moholy-Nagy was one of the most successful teachers, and in Chicago he will still have the benefit of Gropius's presence on an advisory committee.

woe betide the man who lays an irreverent hand on an old-world cottage, or half-timbered pub, even if they are entirely lacking in every architectural merit, he will never earn forgiveness, and must expect to be cast into the outer darkness with those who are unkind to cats, rather than to human beings.

#### Dudley Zoo

The photographs of Dudley Zoo, reproduced on pages 177 to 186 of this issue, were taken by the following: Mr. Herbert Felton: Nos. 1, 3, 6, 8, 9, 13, 14, 15, 18, 19, 20, 21, 22 and 31. Mr. John Havinden: Nos. 10, 26 and Plate II. Miss Mary Hope: Nos. 4, 25, 27 and 28.

#### Earls Court 1900-1937

##### 1900

In 1900 a "Women's Exhibition" was opened by the Lord and Lady Mayoress and Sheriffs in state.

##### 1901

A very special effort seems to have been made over the Military Exhibition of 1901. China (after the Boxer rebellion) is much in evidence. There was a trip down the Canton river through "novel and highly realistic views which unfurl their charms on either hand" and a great Chinese dragon which conveyed sight-seers round the lake on his back.

##### 1902

In the year 1902 the Exhibition was called "Paris in London."

##### 1903

The next exhibition was an International Fire Exhibition intended to popularize the study of protection from fire.

##### 1904

In 1904 there was another Italian Exhibition. This had as its basis a loan collection of artistic exhibits from Italy including a vast number of second rate pictures.

##### 1905

A naval Exhibition occupied Earls Court during the summer of 1905 and in "that Protean place of entertainment," the Empress Theatre, a warship, H.M.S. Python, was built in admirable detail.

##### 1906

In 1906 there was an Exhibition of Austrian arts and industries. Contemporary advertisements might have been written by Mr. Jingle. The Empress Hall staged a Tyrolean village with a real waterfall.

##### 1907

In 1907 the Exhibition was devoted to the Balkan States—with Servian, Bulgarian and Montenegrin sections.

##### 1908

In 1908 the Exhibition was

Hungarian with a Hungarian restaurant and Lager Beer Hall, Steiner's Hungarian Cadets band, a Tzigane Orchestra, Hungarian Ice Caverns, a haunted castle and a Hungarian working coal mine.

##### 1909

In 1909 Earls Court staged an exhibition dedicated to the Golden West containing "a magnificent display of America's products and inventions."

##### 1910-11

The Exhibition, already in decline, faded out altogether during this year but in the following year an attempt was made to revive the purely entertainment side but there was no attempt to hold an exhibition on the grand scale. This is curious as 1911 was Coronation year.

##### 1912

The last Exhibition of any importance was "Shakespeare's England," opened in 1912.

##### 1913

In 1913 the Exhibition was dedicated to the Imperial Services.

##### 1914

The Old Earls Court really finished in 1914.

By August of that year it had become a concentration camp for Belgian refugees and thus it remained during the war. Afterwards it was used as a mart. When their temporary quarters were abolished the site was for some time used as a depot for the Royal Air Force and up to the end of 1924 was a centre for the Disposals Board. Its last inglorious purpose was to afford a home for derelict buses.

*The above details of the history of Earls Court are taken from notes kindly provided by the proprietors of the new building.*

#### CORRESPONDENCE

##### Professor Hitchcock and Mr. Frank Lloyd Wright

In our September issue we printed a letter from the Secretary of Mr. Frank Lloyd Wright's "Taliesin Fellowship," in which he made severe criticism of an article on modern American architecture published in our July issue and contributed by Prof. Henry-Russell Hitch-

cock, of Wesleyan University, Connecticut. This month we are able to publish a reply by Prof. Hitchcock. This is printed below and is preceded by the original letter from the Taliesin Fellowship and also by another letter sent from Taliesin at the same time direct to Prof. Hitchcock.

##### *The Taliesin Fellowship to Prof. H. R. Hitchcock.*

My dear Professor Hitchcock: I have just read your article in the London "Review" and am curious about your reference to Mr. Frank Lloyd Wright in the past tense: "For, I suppose, there might conceivably grow up in a vacuum, without benefit of intention, a sense of form wholly of the twentieth century and wholly American, as was Wright's in the days when he was an active architect before the war."

Mr. Wright is building five important buildings right now that bear the same relation to buildings to-day as the ones you refer to then bore to those around them. Growth has been steady and consistent. He has designed at least twenty buildings, not to mention Broadacre City, in the past three years. He is very active: active enough to keep twenty-five boys of 20 to 30 years busy at Taliesin the year around.

Also how could you state so dogmatically the "evident lack of a torchbearer in American Architecture" and say "It is probably true that in the absence of any alternate sense of form, and above all else, in the absence of any new directing genius in America, our architects are best advised to accept European modern architecture." If Mr. Wright was what you say he was he still is, and both the statements I have quoted are not merely ignorant but slanderous. The Fellowship to which I belong is writing to the editor of the "Review" in which your article appeared demanding a retraction or satisfactory explanation for printing such statements.

They are not merely misleading: they are not only false. They seem malicious.

Sincerely yours,  
John E. Lautner, Jr.,  
Taliesin,  
Spring Green,  
Wisconsin.

##### *The Taliesin Fellowship to the Editors of THE ARCHITECTURAL REVIEW.*

Gentlemen,—For the false and misleading statements in the article by Henry-Russell Hitchcock in the July issue of THE ARCHITECTURAL REVIEW, the Taliesin Fellowship asks a satisfactory explanation or a retraction.



An interesting commentary on the article on the buildings of Haiti which appears on pages 209-210 of this issue, is given by this portrait of Henry Christophe. It was painted by Richard Evans (1784-1871) who was for some years the pupil and assistant to Sir Thomas Lawrence. The picture is now in the possession of Captain Bruce S. Ingram.

England and Europe are given an erroneous picture of the future of American architecture.

It does not seem necessary to point out to the leading architectural magazine by going through a list of recent executed and unexecuted buildings by Frank Lloyd Wright, that the statement ending: "... as was Wright's in the days when he was an active architect before the War" is not only blatantly ignorant but, in the circumstances libellous.

Sincerely yours,

The Taliesin Fellowship,  
Eugene Masselink, Secretary.

Prof. Hitchcock's reply:

To the Editor of THE ARCHITECTURAL REVIEW.

Dear Sir, - Will you permit me to reply in your pages not only to the letter of complaint against my article which you have received from Frank Lloyd Wright in the name of the Taliesin Fellowship, but also to that from Mr. John E. Lautner, junr., of the Taliesin Fellowship (which I enclose), and which offers rather more specific statements upon which to comment.

The sentence in my article: "On the other hand, it is

probably true that in the absence of any alternate sense of form, and above all else, in the absence of any new directing genius in America, our architects are best advised to accept European modern architecture as an International Style, a new academic standard, etc.", is clearly not a statement of fact but an opinion. It is barely possible also that, as the letter to the REVIEW suggests, this sentence may give an "erroneous picture of the future of American architecture," but by implication only: for it offers no picture but only a somewhat guarded and frankly personal recommendation which it would seem certainly my privilege to write and yours (in case you found my opinions of any interest) to publish.

As to the other sentences to which exception is taken, the crucial words appear to be, "as was Wright's in the days when he was an active architect before the War." This phrase I should consider to be not so much inaccurate as elliptical. To fully convey my meaning, the phrase might well have been expanded as follows: "as was Wright's in the days before the

War, when his very active production was an inspiration to modern architects throughout the world." Again, it is the privilege of my critics to consider the phrase ignorant, but as I made no statement that Wright is not an active architect to-day, it can hardly be libellous. It is possible that the implications of the phrase are, as Mr. Lautner states, "misleading," but I hardly believe that to anyone not hypersensitive the statement could "seem malicious."

May I conclude the unwelcome task of replying to these letters (which pain me more than I can say) by stating my delight in the news of Wright's continued activity which Mr. Lautner's letter contains. Surely during the last few years in America, when architectural activity has so largely ceased, Mr. Wright is far happier than most American architects in that out of twenty or more buildings designed, five are now actually in construction.

Of executed and published buildings by Mr. Wright in the last few years I am familiar with only one in photographs and plans, the Willey house in Minneapolis. If others have been brought to completion, it is regrettable that the American architectural press has preferred to publish work of the school of Wright, such as the houses of Alden B. Dow, rather than the master's own work. The Kaufman house, in Pennsylvania, must now be nearly completed; a reference has appeared this summer to the amazingly novel concrete supports now being set up by Mr. Wright for a building in Racine, Wisconsin. There is every reason to hope that when the rest of the latest works of Wright are known it will be evident, to quote Mr. Lautner's words, that "growth has been steady and consistent."

In brief, the difference between my point of view towards Wright and that of Taliesin (which somewhat resembles that of the immediate Wagner circle towards that master in his later years) is that while I consider Wright America's greatest architect and the only American architect who has had a fruitful influence upon the outside world, it seems to me equally evident that his creative force was most consistent and effective in the years between 1900

and the War, when the bulk of his achievement was greatest in quantity, when in quality it rose highest above all other American work, and when owing to important foreign publications it exerted its most powerful effect in leading toward the development of post-War modern architecture.

There is not to-day a large or important group of Wright followers in America. The most considerable younger architect who has had direct contact with Wright is widely recognized to be Richard Neutra, whose current work is certainly more related to the modern architecture of post-War Europe than to Wright's of any period. But there was a time just before and just after the War when there was an important European school of Wright, which later converged with other non-American currents from Vienna and from Paris to form what we know to-day as modern architecture.

The Taliesin point of view is briefly indicated by Mr. Lautner's statement: "If Mr. Wright was what you say he was, he still is," which seems to me to be nonsense considered in the light of general historical and biographical developments. I would like to hope that Mr. Wright might be the "new directing genius" we so badly need in America to-day. The generation now in the middle of life failed to follow Wright when his potentialities were highest and when their contemporaries abroad saw most clearly the light his example shed. It is possible but unlikely that a later generation, some issuing from the atelier of the master of Taliesin, some studying and emulating from a distance his latest work, will make plain within the near future, when construction gets under weigh in America again, that Wright is still, in very deed, the torch bearer whose absence, I insist, is at the present moment so evident.

Forgive the length of this reply, but the issues raised deserved, it seemed to me, real clarification, and my very great respect and admiration for Wright, made it impossible to answer with a merely perfunctory letter what seemed the querulous quibbling of the Taliesin camp.

Yours very truly,

HENRY-RUSSELL HITCHCOCK.





**FLATS** at Cazenove Road, Hackney (Architect, E. M. Joseph, A.R.I.B.A.), built for Hackney Borough Council.

The window-sills are constructed with special Flettons pressed by one of MARSTON VALLEY BRICK COMPANY'S machines.

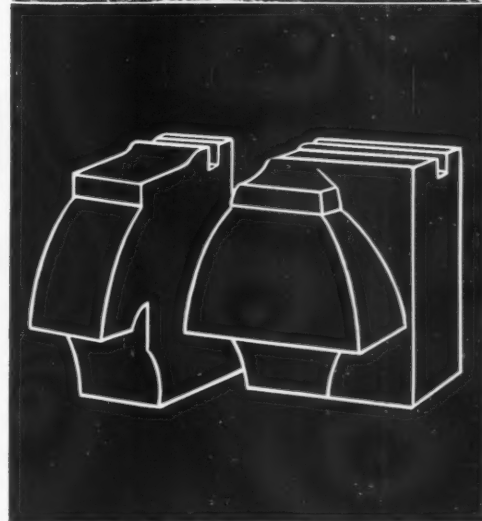


# MARSTON

## Bespres Flettons

STANDARD TYPES: •PLAIN •SLOTTED •WEBCEL •BARK RUSTIC FACINGS

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# Trade News and Reviews

By BRIAN GRANT

## Electricity and the Architect

Though Man is the most adaptable of animals, when he attains control of a new material or force he is sometimes inordinately slow to recognize the real potentialities peculiar to it. When the use of bronze was first discovered it was for a long period employed only in the shapes which experience had shown to be suitable to flint. The earliest Chinese ceramics retained the forms appropriate to the bronze utensils they replaced. Greek temples were translations into marble or stone of forms originally evolved in wood. And to-day we find all around us evidence of the

fact that 20th century Man has as yet made pathetic use of new materials and forces, many of which have been available to him for half a century and more.



*A restaurant and snack bar in Regent Street, London, lighted indirectly from a central trough by lamps placed at 1 ft. 6 in. centres. The design and arrangements of unit reflectors provide even diffusion of light over the ceiling surface and shadowless lighting in the room. Architects: Pakington & Enthoven. Lighting Engineers: Allom Brothers, Ltd.*



*Gasolier in a London restaurant converted for the use of the revolutionary new lighting power.*

Consider electricity and, in particular, electric lighting. In pre-electric days the architect's interest in artificial lighting was slight—lighting was just about as exciting as plumbing and the architect's principal concern was to see that the various gas pipes were appropriately connected throughout the structure. For years after the advent of light by electricity it seemed that Man was so elated by the one obvious advantage offered by this new lighting medium—the ease with which it could be turned on and off—that little or no attempt was made to explore and utilize its greater potentialities. Chandeliers were wired and gas brackets adapted, and Man marvelled at his own ingenuity. Even to-day many electricity showrooms are half filled with electric light fittings disguised as candles, electric fires masquerading as coal fires, and radio sets “all dressed up” as pieces of period furniture.

It is in lighting that there lies the greatest opportunity for

the use of electricity for architectural ends. The logical development of illumination by electricity is indirect and semi-indirect lighting incorporated in the design and structure of buildings. Development along these lines has not been rapid but an examination of the best work of the younger architects and interior decorators does seem to indicate that ultimately this form of lighting will be generally adopted.

“Architectural lighting” has been described as systems of lighting which utilize luminous or illuminated surfaces as an essential part of the design of buildings, and where the requisite lighting equipment is either built into or on to the structure as an integral part of it. In order to incorporate such lighting satisfactorily and economically the architect has had to acquire a much wider knowledge of the technical and practical side of installation work. The electrical contractor, hitherto regarded as “one of the sub-contractors” (a mere electrician whose mundane task it was to supply and fix so many yards of electric cable and so many lamps of a specified voltage and wattage) has now been elevated to the designation of “lighting consultant.” A competent, conscientious and imaginative lighting engineer is an invaluable ally whose advice and co-operation should be enlisted even before the architect has himself evolved any tangible ideas. It is not fantastic to describe “modern lighting” as a material that can be ordered by the square foot (in an almost unlimited variety of colours and intensities) and stretched on any



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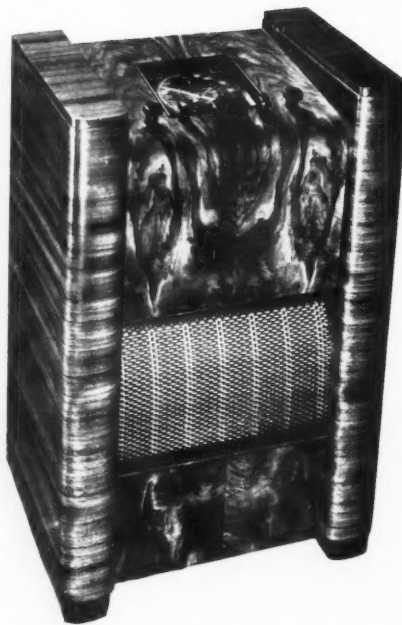
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part of a room's surface. By the use of a combination of lighting methods—direct, indirect and semi-indirect—together with colour and dimmer control almost any desired effect within reasonable limitations can be realized. Such transplendent schemes are, however, likely to devour far too much of the client's money if the lighting consultant is not given every opportunity of co-operating with the architect in the earliest stages of design and planning.

An interesting lighting installation is illustrated on pages 197-199 of this issue. The architects (Cairns & Ford), the lighting contractors (G.V.D. Illuminators Ltd.), the builders and the interior decorators co-operated carefully with the result that current consumption throughout the building is commendably low and a considerable saving in maintenance and lamp renewal costs has been effected through the wide spacing of the lamps in the lighting troughs, panels and cornices.

### New Istock London Showrooms

New premises for the London offices and showrooms of the Istock Brick and Tile Co., Ltd., have been constructed at the L.M.S. Railway Goods Depot, High Street, Kensington, W.8, and these will



An "All-wave" radio console with six valve superhet circuit, made for A.C. and D.C. mains. The standard cabinet is of figured and straight grained walnut with macassar inlay; the speaker grille is in bronze mesh. Price for standard radio and cabinet: 28 guineas. Manufacturers: Radio Gramophone Development Company, Ltd.

be occupied by this company from October 16th. The new telephone number is Western 1281 2.

The new showrooms afford improved facilities for the display of Istock Products, especially for their well-known facing bricks and roofing tiles, of which the Istock Company claim to produce the widest range of colours and varieties manufactured by a single works.

## Through the Letter Box

### A Catalogue for Drawing Office use

Henry Hope & Sons Ltd., in their advertising literature very aptly term themselves "makers of fine windows," they are also the producers of a very fine catalogue. Would that all catalogues were as intelligent and informative as those published by Messrs. Hope. I receive from them this month an advance catalogue of metal windows, giving specification particulars, full size sections, ordering instructions, glazing instructions, and all the more important fixing details. It has been sent, apparently, as a temporary expedient—a sort of "advance guard" to their new catalogue proper which is now in course of preparation. Application for copies should be made to Henry

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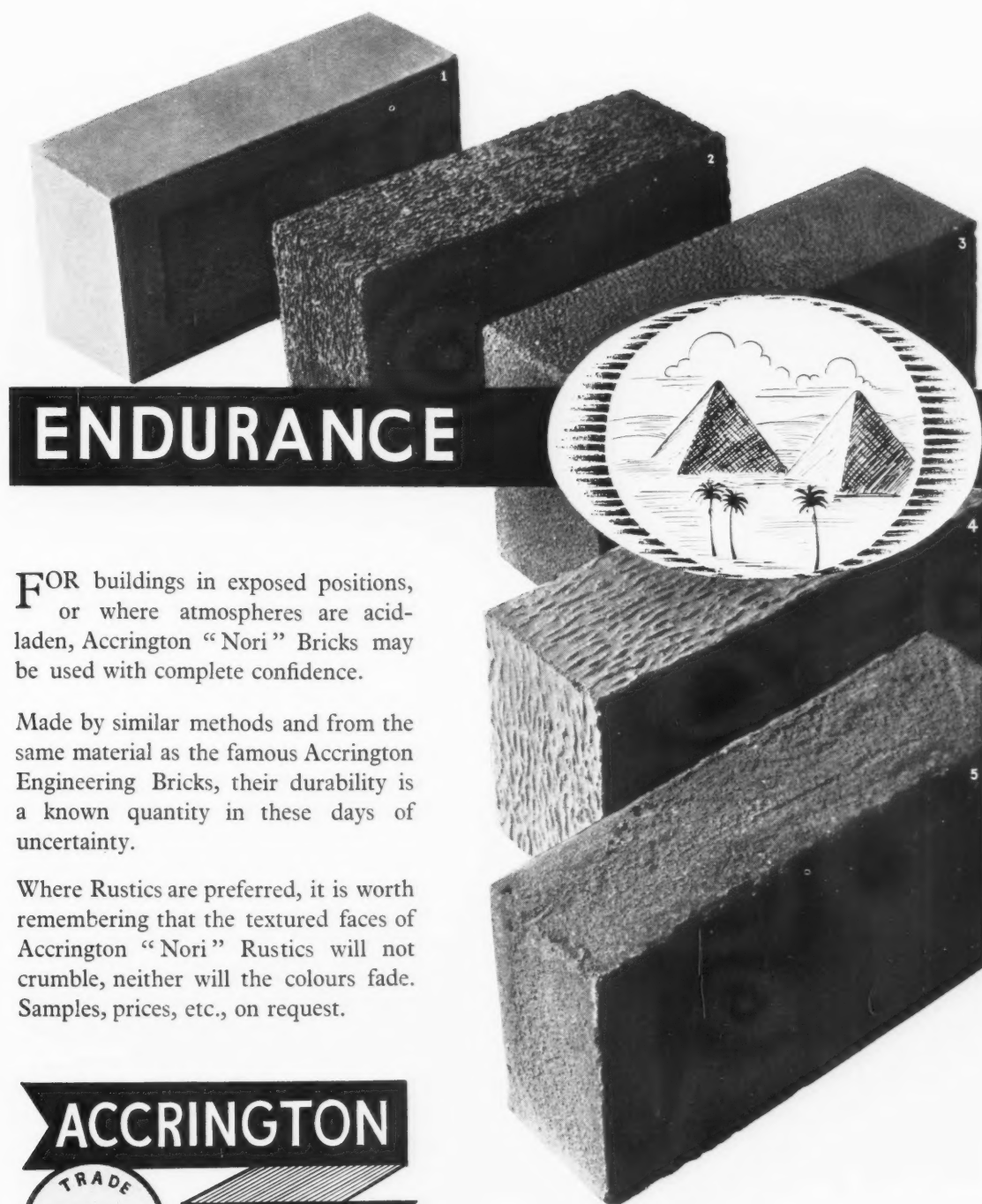
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have yet to receive the first claim against the comprehensive guarantee which they give with every door sold. Prices range from 33s. 6d. to 67s.

The manufacture and construction of these doors, together with all details of

sizes, prices and veneer finishes, are fully described in an illustrated catalogue, copies of which may be obtained from the manufacturers, John H. Brough & Co. Ltd., Station Road, Beeston, Nottinghamshire.



*An example of circular Ancona walnut panelling. Photograph reproduced from the catalogue of John H. Brough & Company referred to on this page. Architect: W. A. Johnson.*



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